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DOCUMENTS

OF

THE CITY OF BOSTON,

FOR THE YEAR

1845.

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City Document—No. 1.

ADDRESS OF ALDERMAN PARKER

TO THE

CITY COUNCIL OF BOSTON,

JANUARY 23, 1845.

BOSTONIA
CONDITA AD.
1630.

PRINTED BY ORDER OF THE CITY COUNCIL.

BOSTON:
JOHN H. EASTBURN, CITY PRINTER,
No. 18 State Street.

1845.

CITY OF BOSTON.

In Common Council, January 23, 1845.

Ordered, That the Clerk request of WILLIAM PARKER, ESQ., the Chairman of the Board of Aldermen, a copy of the Address this day delivered by him to the City Council; that the same may be printed for the use of the Council.

P. W. CHANDLER, *President.*

ADDRESS.

GENTLEMEN OF THE CITY COUNCIL:

In the present condition of the Government of the City, it seems hardly necessary to apprise you of the exigencies which the delay of its complete organization has occasioned. Summoned, as we have been, to the administration of its respective departments, under existing circumstances, I indulge the belief that, on the present occasion, it will not be deemed presumptuous or out of place in one, who has been casually called to the Chair, in the absence of a Chief Magistrate, to communicate to you information of the urgency of such of its affairs as require your immediate notice and action. Without anticipating what is the proper province of the Executive Officer of the City, I beg your indulgence, for a few moments, in making some suggestions upon subjects, which require, imperatively, an immediate supervision.

By a vote of the City Council of the last year, it became the duty of the Mayor and Aldermen to cause a petition, in behalf of the City Council, to be presented to the Legislature, asking the sanction of that body to enable the City to introduce a competent supply of soft water from Long Pond, in the towns of Natick, Wayland and Framingham—and that a charter should be granted for that purpose. This petition has been duly presented by the proper authorities, and, in the usual course of legislation, was committed to a joint Committee of both branches. Notice has been served upon the City Clerk, apprising the petitioners of the hearing, preparatory to a decision of the merits of the petition; and orders of notice to the respective towns of Natick, Wayland, Framingham, Weston, Newton, Needham, Brighton, Brookline, and Roxbury, were issued, and directed to be served, personally, upon the Town Clerks of each of those towns; as, also, newspaper notices in the county of Middlesex, as well as in Boston, to all other corporations and persons in interest, to appear on the 30th day of January instant, to show cause why the prayer of said petition should not be granted. It, thereupon, became the imperative duty of such of the Board of Aldermen as were then elected, to represent the interest of the City before the Committee on the 16th instant, and to send a special messenger, with the notices and copies of the petitions, to the several towns—and these notices have been served, in a manner pursuant to the legislative order. In these preparatory measures, they have called to their aid the able City Solicitor, who has afforded them, at all times, such assistance and advice as were required. The importance of this measure, after the decided expression of the popular vote in its favor, will appear obvious; and it so occurred to the members of the Board of Aldermen, inasmuch as intimations are made that the session of the Legislature may not be a protracted one. In the matter alluded to, it remains for the City Council to determine whether arrangements shall be made for the employment of eminent counsel to present the views of the City, and advocate its interest in the merits of this question. It may reasonably be anticipated that able counsel will be retained by other corporations and individuals, who shall deem themselves aggrieved, should the prayer of the petition be granted —and that strong opposition will be made by others, who may be adverse to the object sought.

Another subject, now pending in the Legislature, and awaiting the action of the City, is a petition for the grant of certain flats, in Brookline and its vicinity, to Sidney Willard and others, petitioners, with a view to construct an island wharf for the deposit of merchandize, and thence to make a road to Charles street, in Boston. The hearing of this petition is at an early day, and requires immediate attention. It has been suggested that this measure, if accomplished, will impede the navigation of the harbor of Boston, by presenting another obstacle to the natural current of the channel—and that the City have further interests in the premises, which should be protected. Upon several other petitions, not less than five or six, for the extension of wharves to the Commissioners' line, the action of the Legislature has been sought, and orders of notice have issued to the City, the subject matters of which involve, directly or remotely, the interest and welfare of the City, and they should be provided for.

Among several other subjects now pending before the Legislature, the following may be found to require some action, viz: the revision of the tax law, so far as it relates to the City of Boston; the alien passenger law, which has recently been called up; and a proper revision of the City Charter. Of the importance of the two last, it seems hardly necessary to apprise you. There appears to be no good reason why the tax on alien passengers should be paid into the State Treasury, if the City of Boston is to be incumbered with the support of the foreign pauper emigrants who are so continually brought to our shores—and it seems only necessary to present this subject, in its proper light, to the Legislature, to obtain a measure of justice, by means of which some adequate indemnity may be secured, for the support of our public charitable institutions, which receive and maintain so large a proportion of alien paupers.

In reference to the amendment of the City Charter, during the present session of the Legislature, no reasonable mind can doubt its expediency. Past and present experience of the embarrassments into which we have been thrown, is too fresh in the memory to admit of a question of the importance of such revision, and to you I need not urge its importance.

If, in these suggestions, I have trespassed upon the province of the proper Executive Officer, I may be permitted to urge, as an apology, the apparent necessity of immediate action, while the session of the Legislature exists, lest, by further delay, the several subjects there pending shall be prejudiced, for want of that degree of vigilance, on our part, which the welfare, good government, and importance of its interest, require. It becomes not me to suggest the mode by which these should be guarded—and I deem it necessary only to apprise you of the urgency of these subjects, leaving it to your wisdom and discretion to apply the remedy as it may be deemed advisable.

However unfortunate it may be that the requirements of the Legislature should, at present, demand such prompt attention on the part of the authorities of the City, there seems to be no reason why the subjects alluded to should be further delayed—and, so far as it rests upon the efforts of those to whom they properly appertain, I am warranted in the assurance that such immediate action will be had, as will meet the emergencies which so successively array themselves to their observation and notice.

City Document.—No. 2.

CITY OF BOSTON.

SICUT PATRIBUS SIT DEUS NOBIS
BOSTONIA
CONDITA A.D.
1630.
CIVITATIS REGIMINE DONATA A.D. 1822.

BOSTON LUNATIC HOSPITAL.

In Common Council, February 6, 1845.

Read twice and ordered to be printed.

Attest, W. P. Gregg, *Clerk C. C.*

CITY OF BOSTON.

In Common Council, January 23, 1845.

Ordered, That the Report and Ordinance relating to the appointment of a Board of Visitors to the Boston Lunatic Hospital, be taken from the files and referred to Messrs. Clapp, Thayer and Brown, with such as the Board of Aldermen may join, to consider and report upon the expediency of passing said Ordinance.

Sent up for concurrence.

P. W. CHANDLER, *President*.

In the Board of Aldermen, January 25, 1845.

Read and concurred, and Aldermen Hathaway and Perkins were joined.

WILLIAM PARKER,
Chairman pro tem Board of Aldermen.

The above Committee report the within Ordidinance.

JOHN HATHAWAY,
Chairman of Committee.

CITY OF BOSTON.

AN ORDINANCE

In addition to "*An Ordinance relating to the Boston Lunatic Hospital.*"

Be it ordained by the Mayor, Aldermen and Common Council of the City of Boston, in City Council assembled, as follows:

SECT. 1. There shall be chosen by the City Council, annually, in the month of January or February, seven persons, including one Alderman and one member of the Common Council, who shall be a Board of Visitors of the Boston Lunatic Hospital, who shall hold their offices until others are chosen in their places, and who shall have all the power and perform all the duties prescribed to the Board of Visitors of the said Hospital, by the ordinance to which this is in addition.

SECT. 2. All rules and regulations which shall be made by the said Board of Visitors, for the employment, compensation and discharge of the subordinate officers, attendants and domestics, and for the government and management of the said Hospital, shall within one month after the same shall have been made, be submitted to the City Council, and such rules and regulations shall be in force until repealed by said Board of Visitors, or until disapproved of by vote of the said City Council.

SECT. 3. The first section of the Ordinance to which this is in addition, passed October 3d, 1842, and all ordinances and parts of ordinances inconsistent herewith, are hereby repealed. The powers and duties of the present Board of Visitors shall cease upon the election by the City Council of the new Board contemplated by this act.

In the Board of Aldermen, February 6, 1845.

Passed.
Sent down for concurrence.

WILLIAM PARKER,
Chairman Board of Aldermen pro tempore.

City Document—No. 3.

REPORTS

OF THE

INSPECTORS OF PRISONS,

FOR THE

COUNTY OF SUFFOLK,

ON THE

JAIL, BOSTON LUNATIC HOSPITAL,
HOUSE OF CORRECTION,
HOUSES OF REFORMATION AND INDUSTRY,

DECEMBER, 1844.

BOSTON:
JOHN H. EASTBURN, CITY PRINTER,
No. 18 State Street.

1845.

REPORT.

To the Mayor and Aldermen of the City of Boston.

The undersigned, Inspectors of Prisons in the County of Suffolk, report that during the month of December, A. D. 1844, they have inspected the several places of confinement and imprisonment in said County, viz: the Jail, the House of Correction, the House of Industry, and the House for the Employment and Reformation of Juvenile Offenders, and the Boston Lunatic Hospital.

The Inspectors were admitted to all the apartments of said places of confinement by the persons in charge thereof, who respectively gave the Inspectors an opportunity to converse apart with the persons confined in the same and also answered the inquiries of the Inspectors, and exhibited such books, documents and papers as was required, and have respectively made returns as prescribed by law.

The House of Industry was inspected in said month as far as the same is used as a place of confinement of persons sentenced to imprisonment.

It appeared that since the last inspection of these places of confinement, the provisions of law had been observed which required wholesome food in sufficient quantity, to be supplied three times a day to the persons confied therein, that their shirts shall be washed and they shall have a clean towel and the privilege of being shaved at least once a week; that attention shall be paid to their personal cleanliness, and that males shall be confined separately from females. So also the provisions of law forbidding the supplying of spirituous liquors to the persons confined had been observed. The persons confined had been supplied with suitable beds and bedding, and with clean water for washing and drinking. It also appeared that the provisions of the law relative to the Jail and House of Correction, requiring the whitewashing of the apartments thereof, forbidding there being any permanent vaults therein, requiring that each prisoner shall be supplied with a bucket and close cover, and prescribing the manner in which the same shall be taken care of; and those forbidding that wet clothes shall be hung up in any room occupied by any prisoner in the night, have all been complied with. In these two places of confinement, Ministers of the Gospel have been admitted to visit the prisoners, and bibles and testaments have been supplied to them as provided by law.

THE JAIL.

At the time of the last inspection, in June last, there were confined in the Jail,

Criminals, - - - - -	43	
Debtors, - - - - -	4	47
Committed to the Jail to the time of inspection, December 6th,		
Criminals, - - - - -	965	
Debtors, - - - - -	209	1174
		1221

Nine hundred and sixty-five persons have been committed for the following causes, viz :

Larceny,	155
Setting fires,	2
Selling liquor,	11
Drawing handcart without license,	1
Counterfeiting,	10
Drunkenness,	110
Adultery,	9
Cheating,	7
Assaults,	67
Keeping house of ill fame,	20
Murder,	4
*Safe keeping,	11
Bastardy,	8
Witness,	5
Forgery,	4
Fast driving,	1
Exposure of person,	2
Keeping dog without license,	1
Robbery,	1
Fornication,	1
Fugitives from justice,	4
Smoking in streets,	4
Manslaughter,	2
Vagabond,	1
Burglary,	3
Lewdness,	3
Causing an abortion,	1
Being a stubborn child,	1
Contempt of court,	1
Illegal voting,	2

---

*1 escaped Convict; 4 Sailors on mariners warrant; 2 Soldiers who had deserted; 4 committed over night by officers from other States.

Collecting offal,	1	
Disturbing public worship,	1	
To be detained for examination by Magistrate on complaint,	511	965

The following persons have been discharged by order of Police Court, viz:

Stephen Whalan, Thomas Fitzgerald, Joseph T. Brigham, Daniel Newcomb, John Cutter, William S. Davis, Joseph Fales, Rufus Thompson, William Withers, Daniel Hollohan, Andrew Daley, John Conry, Thomas Windham, Lawrence Hill, Samuel Merton, James W. Johnson, John Kelley, John O'Neill, Henry Lewis, John M. Horn, William Johnson, Michael O'Conner, Andrew McCarty, John Wilson, Daniel Usher, Eliza Caslete, Patrick Dooley, John O'Brien, Mary Pierce, James S. Carlton, Jeremiah Weed, Timothy Corey, Thomas Reed, William Jones, John A. Douglas, Catharine Smith, John Hill, James Stewart, James Carlton, John Jones, William H. Thomas, John Smith, Rebecca Newcomb, Wendell Seaver, John O'Brien, Zachariah Morrison, James Welch, Owen Cochran, Peter Buckman, John B. White, Mark Blake, George Olmstead, Eliza Hancock, James Devine, Eliza White, James Byron, John Kelly, John Haley, John Randolph, Daniel Hanagan, Eliza Hancock, Ellen Woolford, William Hicks, Thomas Miller, Franklin Cann, Florence Sullivan, Maurice Hall, Phillip Leddy, William Quinn, John Stratton, Thomas Cleary, Richard Medlay, Elizabeth Allen, John Nelson, Susan Wright, Michael McCarty, Nath'l Langdon, Charles Williams, William Bailey, Roger Hearty, Patrick Bonnegan, John Davidson, John Flanagan, John

Honerty, Joseph Haskins, James Keefe, Daniel Devine, John Burns, James W. Daniels, Elkannah Howes, Thomas Brown, Patrick Donnegan, Edward Jones, James Brown, Elzabeth Blaisdell, Winnefred Crosby, Benjamin Webber, William Woodrup, John Harris, William D. Fessenden, and Asa Packard.

None have escaped.

None have been discharged or pardoned.

One, Joseph Elder, committed suicide November 1, by hanging himself.

At the time of inspection there were in the Jail, committed for offences,

Males,	32	
Females,	6	38
Debtors,		4

In respect to confining one prisoner only in a room, the Deputy Jailor says in his return that this is sometimes impracticable, by reason of the number. Two have also been put in the same room, where one of them by reason of sickness and weakness needed the care of another. Each prisoner is confined in an apartment by himself as far as is practicable and not obviously inconvenient.

The Deputy Jailor, in his return, remarks that some inconvenience and expense accrues from the destruction of the furniture, such as bed clothes, particularly for the purpose of contriving means of communication between the different apartments, which is understood not to be by our laws an offence, and a civil remedy is in the case of most of the prisoners, of no avail.

On the subject of discipline, he remarks that there is very little, as the office and house of the Jailor are in no ways connected with the jail and owing to the construction of the buildings, the prisoners can have communication among themselves, except when some officer happens to be present.

No punishments have been inflicted.

The prisoners generally manifested their satisfaction with the treatment they have received. One of them mentioned that at one of his meals he was not supplied with bread, but of this he made no complaint, as he understood it to have happened through oversight, and so it appeared by the statement of the Deputy Jailor. Some of the prisoners mentioned, that at the setting in of winter, they suffered in some degree from cold, but this had been soon remedied, and the apartments were at the time of this inspection well warmed and at the same time sufficiently ventilated.

BOSTON LUNATIC HOSPITAL.

The Inspectors on the thirteenth day of December current, visited the Boston Lunatic Hospital and examined all the apartments of the same, saw all the patients, and made particular inquiries of Dr. Stedman the Superintendent, respecting the condition of the Institution and the management of the patients; all which inquiries were promptly and fully answered. Since the last inspection, the separate building for the confinement of noisy and disorderly patients has been nearly finished, and was, at the time of this inspection, in use, two patients being then confined there. The addition of this building to the other accommodations, is, as was anticipated, a material improvement. The separation of such patients from the others, enables the Superintendent and his assistants to maintain a good degree of order and quiet in the halls of the main buildings where the other patients are kept. The new building appears to be so constructed as to be well adapted to the use to which it is put. Some slight improvement is needed for the more equal diffusion of heat, the two apartments nearest the furnace being at present at too high a temperature, when the others are kept at a suitable one. This imperfection may probably be remedied, and no other defect in the construction and arrangement of the building was observed.

The halls and dormitories were generally in very good order. The atmosphere of one of the halls was affected in some degree, at the time of this visitation, in consequence of an injury done by some of the patients to one of the water closets, which, as the Inspectors were informed, was to be immediately repaired.

The Superintendent drew the attention of the Inspectors to the difference of atmosphere in the apartments having brick floors from that of those with wooden floors, and the difference in favor of the latter was evident, arising in part from the dampness occasioned by the bricks and partly from contaminating exhalations. Another reason for preferring wooden floors was obvious, from a circumstance that occurred while the Inspectors were present. It was that of an epiliptic patient falling upon the brick floor and there struggling and writhing in one of the fits to which he was frequently subject. It seemed to be obvious that there was more danger of personal injury to the patient in such case on a brick floor than on a wooden one.

At the time of the inspection, there were three of the patients out of the whole number, whose hands were confined, one female with the muff to prevent her injuring the others, and two males with wristbands to prevent them from tearing their clothes. Very few of the males can be furnished with means of occupation within the halls and dormitories, but the females more easily find facilities for passing their time, about one half of them being employed in needlework and knitting. Many of the patients are attentive and susceptible to music, and the Superintendent proposes to address himself in behalf of the Institution to the liberality and benevolence of individuals for contributions towards the expense of procuring an organ for the Chapel of the Hospital.

It appeared that the Hospital is fully and to some degree excessively occupied. Five of the dormitories of the males which were intended for one occupant only, and as the Superintendent thinks, are only of sufficient dimensions for one, have two; and also two of the dormitories of the females, have each two occupants.

The Superintendent is still of the opinion as stated in his report on the last inspection, that a diet of a pretty nourishing and substantial description is more healthful to these patients, and more promotive of their recovery, than a spare one.

No. of patients remaining in the Hospital at the last inspection:

Males,	55	
Females,	49	104

No. of patients admitted since last inspection:

Males,	15	
Females,	7	22

Cases of less duration than one year:

Males,	11	
Females,	3	14

Of these have recovered,	6	
" " improved,	6	
" not improved,	2	14

Of the six improved, four will probably recover within the coming year. Two, from the peculiarity of their condition and symptoms, the Superintendent regards as nearly or quite incurable.

Cases of longer duration than one year,

Males,	4	
Females,	4	8

Of these, 3 have more or less improved.

Of these, 5 remain stationary.

Whole number of patients discharged since last inspection:

Males,	7	
Females,	2	9
Of these have recovered,	4	
" " not improved,	1	
died,	4	9

Causes of Death:

Scrofula,	1	
Chronic inflammation of the brain,	1	
Consumption,	1	
Marasmus,	1	4

Names of those who have died:

Eliza Thompson, Joseph Haney, Dennis Lahy, Daniel O'Leary.

Admissions and discharges in each month since last inspection:

Admissions.			*Discharges.*	
June,	4			
July,	6		July,	2
August,	2			
September,	2		September,	6
October,	3		October,	1
November,	3			
December,	2	22		9

Average number of patients during each month:

June,	105
July,	108

August,	113
September,	112
October,	111
November,	114
December,	115
General average,	111 1-7

No. of patients remaining December 13, 1844:

Males,	63	
Females,	54	117
Curable,	4	
Incurable,	113	117

HOUSE OF CORRECTION.

The Inspectors visited the House of Correction on the fifth day of December.

At the previous inspection, on the fifth day of June last, there were in the House, in the whole, 174.

	Males.	Females.
Committed by Municipal Court,	58	10
Committed by Police Court,	55	51
Committed since June 5, by Supreme Court,	2	
" " " by Municipal Court,	57	6
" " " by Police Court,	152	113
	324	180
Discharged since June 5, on expiration of sentence,	154	93
" " " previous to expiration of sentence,	9	1
Escaped,	1	
	164	94
Remaining in confinement December 5th.		
Committed by Supreme Court,	2	
" by Municipal Court,	72	8
" by Police Court,	86	78
	160	86

Whole number in confinement December 5th, 246.

The following persons had been discharged previous to the expiration of sentence, viz.

Leander M. Earle, committed by Municipal Court, March 26, 1844, charged with breaking and entering a shop with intent to steal, for twenty-one months, discharged by order of Governor and Council, July 3, 1844.

Thomas Stewart was committed by Police Court, May 17, 1844, as a common drunkard, for three months, discharged by Police Court, July 24, 1844.

John Hollis, committed by Police Court, July 11, 1844, as a common drunkard, for two months, discharged by order of Police Court, July 29, 1844.

John Beecher, committed by Municipal Court, April 16, 1842, as a common and notorious thief, for three years, discharged by Governor and Council, August 28, 1844.

Philander H. H. Jones, committed by Municipal Court, November 25, 1844, charged with house breaking and larceny, for eighteen months, discharged by Governor and Council, August 28, 1844.

Augustus Tower, committed by Police Court, May 28, 1844, as a common drunkard, for five months, discharged by Police Court, September 17, 1844.

James Tallon, committed by Police Court, August 31, 1844, as a common drunkard, for two months, discharged by Police Court, October 22, 1844.

Susan Cook, committed by Police Court, August 31, 1844, as a common night walker, for two months, discharged by Police Court, October 22, 1844.

Franklin Coggswell, committed by Police Court, September 17, 1844, as a vagabond, for four months, discharged by Police Court, November 4, 1844.

Lewis Curtis, committed by Police Court, October 9, 1844, as a common drunkard, for two months, discharged by Police Court, November 18, 1844.

ESCAPED.

William Johnson. The Master of the House of Correction, states in his return, that Johnson escaped from the Foundry, where he was at work, July 20th, at about half-past 6 o'clock, P. M., and that he was pursued by such Officers as could be spared from the Institution, and by other citizens, and that search was kept up in the neighborhood during the night and the next day, but without success, and that he has since heard of his arrest and imprisonment in New Jersey, for some offence committed there.

Offences.

MALES.

Manslaughter, - - - -	1
Common and notorious thieves, -	3
Larceny in dwelling houses, - -	20
Larceny in shops, - - - -	25
Conspiracy to cheat, - - -	2
Cheating by false pretences, - -	4
Passing counterfeit money, - -	8
Larceny in vessels, - - -	2
Larceny, - - - - - -	81
Receiving stolen goods, - - -	1
Forgery, - - - - -	4
Adultery, - - - - -	3

Keeping house of ill fame, - -	4	
Assault, - - - - -	10	
Lewd, wanton and lascivious persons,	4	
Common Drunkards, - - -	130	
Vagabonds, - - - - -	20	
Lewd and lascivious cohabitation, -	1	
Setting fire to House of Reformation,	1	—324

FEMALES.

Common and notorious thieves, -	2	
Larceny in dwelling house, - -	5	
Adultery, - - - - -	1	
Larceny, - - - - -	7	
Conspiracy to extort money, - -	1	
Keeping house of ill fame, - -	3	
Keeping disorderly house, - -	1	
Lewd, wanton and lascivious persons,	18	
Common night walkers, - - -	11	
Common drunkards, - - -	125	
Vagabonds, - - - - -	6	—180

Number of times committed.

	Males.	Females.
First time, - - - -	186	44
Second time, - - -	45	22
Third time, - - - -	29	27
Fourth time, - - -	21	20
Fifth time, - - - -	9	10
Sixth time, - - - -	6	13
Seventh time, - - -	8	13
Eighth time, - - - -	5	7
Ninth time, - - - -	3	5
Tenth time, - - - -	1	4
Ten and over, - - -	11	15
	324	180

Ages.

	Males.	Females.
Under 20 years, - - -	38	9
20 to 30, - - - -	109	75
30 to 40, - - - -	86	64
40 to 50, - - - -	56	29
50 to 60, - - - -	22	2
60 and over, - - - -	11	1
Unknown, - - - -	2	0
	324	180

Place of Nativity.

Maine, - -	40		
New Hampshire,	36		
Vermont, -	5		
Massachusetts,	136		
Rhode Island,	3		
Connecticut,	2	—Natives of N. England,	222
New York,	13		
New Jersey,	3		
Pennsylvania,	4		
Maryland,	3		
Virginia,	7		
South Carolina,	1		
Louisiana,	1		
Dist. of Columbia,	3	—Natives of other States,	35
		Americans, - -	257
England, -	24		
Ireland, -	170		
Scotland, -	12		
Wales, -	2		
Canada, -	7		
British Provinces,	19		
France, -	3		

Denmark, -	4		
Sweden, -	1		
Germany, -	1		
Cape de Verds,	1		
West Indies,	1—	Foreigners, - -	245
		Unknown, - -	1
		At Sea, - - -	1
		Total, - - -	504

Sentences.

Males.	Females.	Sentences.
1	0	50 days and solitary.
1	0	60 days.
1	1	90 days.
13	4	1 month.
76	37	2 months.
42	23	3 months.
37	34	4 months.
21	34	5 months.
36	34	6 months.
2	1	9 months.
1	0	1 month and solitary.
2	0	2 months and solitary.
4	2	3 months and solitary.
6	1	4 months and solitary.
1	0	5 months and solitary.
14	2	6 months and solitary.
1	0	7 months and solitary.
4	0	8 months and solitary.
6	1	9 months and solitary.
8	2	1 year.
1	0	1¼ year.
5	1	2 years.

Males.	Females.	Sentences.
7	0	3 years.
1	0	3 years and 2 months.
1	0	4 years.
11	0	1 year and solitary.
1	1	1¼ year and solitary.
5	0	1½ year and solitary.
1	0	1¾ year and solitary.
1	1	2 years and solitary.
1	0	2½ years and solitary.
2	0	4 years and solitary.
2	0	5 years and solitary.
2	0	11 months and solitary.
6	1	1½ year.
324	180	

Employments at the time of Inspection.

MALES.

Blacksmiths and stone cutters, under contract,	45
Brass foundry,	21
Stamping brass nails,	12
Hayden's button shop,	36
Carpenters,	2
Tailors,	4
Shoemakers,	3
Bakers,	2
Whitewashers,	2
Sweeps in prison,	2
Lumpers in yard,	5
Piggery,	1
Sick,	12
Invalids,	6

Nurse,	1	
Hostler,	1	
Picking wool,	4	
Barber,	1	160

FEMALES.

Domestics in master's house,	4	
Cooking for prisoners,	6	
Washing for prisoners,	10	
Mending for prisoners,	2	
Sweep in prison,	1	
Sick,	9	
Invalids,	1	
Nurse,	1	
Making Clothing,	52	86
		246

The number of males in confinement June 5th, 1844, was,

Committed by Municipal Court,	58	
" " Police Court,	55	113

Committed from that date to December 5, 1844, by

Supreme Judicial Court,	2	
Municipal Court,	57	
Police Court,	152	211
		324

Discharged during the same period, by

Expiration of sentence,	154	
Previous,	9	
Escaped,	1	
Total number discharged,		160

Males remaining in confinement December 5, 1844, committed by

Municipal Court,	72	

Police Court, - - - - - 86
Supreme Judicial Court, - - - 2—160

Number of females remaining in confinement, June 5, 1844, was

Committed by Municipal Court, - 10
" " Police Court, - - 51—61

Committed from that date to Dec'r 5, 1844, by

Municipal Court, - - - - 6
Police Court, - - - - 113—119

Total number committed, - - 180

Discharged during same period, by

Expiration of sentence, - - - 93
Previous, - - - - - 1—94

Females remaining in confinement, December 5, 1844, was

Committed by Municipal Court, - 8
" by Police Court, - - 78—86

Total number of prisoners remaining in confinement December 5, 1844, was - - 246

HEALTH.

The Master states that general health has prevailed since the last inspection.

There were confined in the Hospital at the time of inspection, 12 Males and 9 Females, whose complaints are as follows:—Fracture of the thigh, 1; Syphilis, 3; Swelled Testicle, 1; Delirium Tremens, 2; Intemperance, 3; Abscess, 2; Diarrhœa, 1; Fever, 1; Erysipelas, 1; Pregnancy, 1; Pleura Pnemonica, 1; Consumption, 1; Disease of the Heart, 1; Indigestion, 1; Hysteria, 1.

The average number of days lost by sickness has been by the Males, 7; Females, 12.

The Physician visits the patients daily, and they are provided with such other attention as is required by their respective cases.

Corporal punishments have been entirely discontinued; that of solitary confinement in a cell remote from other prisoners without any bed, on short allowance, being the method of punishment.

An opportunity is given to all the prisoners for religious instruction and improvement as heretofore.

Religious services are regularly performed in the Chapel, by the Chaplain, Rev. Charles Cleavland, at which the prisoners attend, all of them demeaning themselves with decorum, and many of them appearing to be affected and edified by the service. A copy of the Bible is put into the cell of each prisoner, and since the last inspection, one hundred and twenty-five old copies which had been injured and defaced by eleven years use, have been replaced by new copies, printed in larger type and more attractive and more easily read, for which many of the prisoners expressed to him their sincere thanks. Religious tracts have also been distributed. Each day has been closed in the workshop of the females, by reading a portion of the Scriptures and prayer. The Chaplain visits the sick in the Hospital, and consoles and prays with them. Many of the prisoners of both sexes have recited passages from the Bible, to the Chaplain, to the amount in the whole, since the June inspection, of four thousand one hundred and seventy-nine verses. The Chaplain has also kept a Sunday School for the females, in which fifty-two pupils on an average have attended.

HOUSE OF REFORMATION.

The Inspectors visited this Institution on the sixth of December, and found it in excellent condition, in all respects. Under the superintendance of Mr. Daniel Chandler, assisted by Mr. Lincoln, this house continues to be a scene of order, decorum, neatness, active industry, cheerful obedience, religious observances; successful instruction in the branches of education, taught in the common public schools of the Commonwealth; some cultivation of the art of vocal music and due recreation. This Institution has a most salutary influence in withdrawing children from the haunts of vice and crime and reclaiming them, and putting them in the way of becoming respectable men and useful citizens; and it is matter of regret that many more of the children who are permitted to spend their time in the streets in idleness, in learning and practising mischief, vices and petty offences, are not brought within its beneficent discipline, instead of being left to qualify themselves, by degrees, for the House of Correction.

The Inspectors were informed that the first step of the Superintendent, on the introduction of a new pupil into this school of reform, is to learn from him in what way he has been led into the fault which he has committed, and obtain a minute history of his downward progress. This preliminary information is deemed to be essential in order to ascertain the reformatory discipline or treatment best adapted to the pupil's particular case. Some of the children state their cases readily and frankly, others are reluctant, shy and slow to yield their confidence.

These examinations disclose the fact that many different pupils are drawn into their errors by the same companions. It seems that there is a considerable number of youths in the city, whose regular employment is to initiate others in vice and petty offences.

The proficiency of the inmates of the house in spelling, reading, writing and elementary arithmetic, geography and English grammar, is a striking and very gratifying feature of this Institution, and yet the pursuits of their duties does not prevent them from performing a great deal of work, leaving ample time also for recreation.

The present principal employment is shoemaking, and since the introduction of this branch of industry into the school, the Inspectors have observed with some attention, what the effect of employing so many, from the ages of eleven to sixteen, in one room in this labor, might be upon their health and spirits, but they have not been able to discover any indications of its being prejudicial. The boys exhibit as much vivacity and cheerfulness as are usual with others of their age. Some of them were asked if they found any difficulty in drawing the thread, and if they were ever subject to any pains or weakness in the arms or chest, and they all promptly replied that they experienced no such difficulty, pains or weakness. The Superintendent is decidedly of opinion that the occupation is not attended with any injurious effect.

The health of the inmates has been very good, only a few instances of sickness having occurred, and these slight. The Hospital had been occupied but about one week during the last preceding six months.

The punishments inflicted have been black marks, deprivations of play, loss of grade, and in extreme cases, confinement; and as a last resort, the ferule applied to the palm of the hand. The Superintendent says, in his return, that he places the greatest reliance upon mild, persuasive measures, appeals to the feelings and encouragement to right conduct. If a boy is inclined to go astray, much pains are taken to divert his inclination into a right channel, and to point out to him the evils that are sure to follow crime. At an appointed hour in the evening, the cases of misdemeanors of the day are investigated and settled in the presence of all the boys.

There were in this Institution, at the last inspection, June 6, 1844,

Boys,	47

Since that time to the sixth of December, 1844, there have been committed,

Boys,	7	
Girls,	2	56

They were committed for the causes following, viz:

Stubbornness,	18	
Idleness and dissoluteness,	9	
Larceny,	26	
Vagrancy,	3	56

Indented since last inspection, viz: 4

James M. Luardis to a bootmaker, Oct. 31, 1844.
Thomas Hogan to a house carpenter, Sept. 18, 1844.
Henry Francis to a baker, Sept. 28, 1844.
Patrick Granville to a coppersmith, Aug. 2, 1844.

Discharged by order of Police Court, 7

John H. Court, September 10, 1844, to go to La Grange, Me., to a farmer.

James Dalton, November 21, 1844, to go to Vermont, to a farmer.

James O'Neal, August 16, 1844, to go to his father.

Richard Ryan, November 30, 1844, to go his mother.

John Kiefe, June 28, 1844, to go to his father in Providence.

James Hayes, June 6, 1844, to go to his father.

Daniel Widger, June 6, 1844, to go to sea, with his father.

ESCAPED.

John McAdams and Robert R. Haley, July 6, 1844, while at work in the field, 2

John McGrath committed to House of Correction by order of Municipal Court, 1

In the House at time of inspection, December 6, 1844:

Boys,	40	
Girls,	2	42

HOUSE OF INDUSTRY.

At the time of the last inspection of this House, as far as the same is used as a place of confinement on account of offences committed by persons sentenced, on the seventh of June last, there were remaining of such persons, 8.

This House was again inspected on the thirteenth day of December 1844. It appeared from the return of Mr. Chandler, the Superintendent, which was duly made to the Inspectors, that since the last inspection there had been sentenced by the Police Court, - - - - - - - 11

Making the whole number in the House, under sentence of that Court, - - - - 19

Males, - - - -	7	
Females, - - -	12	19

Committed for the following offences:

Vagabonds, - - -	8	
Common Drunkards, -	11	19

Discharged from June 7, to December 13, 1844:

On expiration of sentence, - - -	10	
By order of Police Court, - - -	1	
Died, - - - - - - -	2	
Escaped, - - - - - -	1	
Remaining December 13, - - -	5	19

It appeared from the inspection of the House and inquiries put to the persons remaining there at the time of inspection, and from the answers of the Superintendent to the inquiries put to him and from his return, that the requirements of the law had been complied with in the treatment of the persons confined in this House.

WILLARD PHILLIPS, JOHN GRAY ROGERS, JAMES C. MERRILL, ABEL CUSHING,	*Inspectors of Prisons.*

City Document.—No. 4.

CITY OF BOSTON.

BOSTONIA
CONDITA A.D.
1630.

CITY CHARTER.

In Common Council, February 6, 1845.

Ordered, That Messrs. Hayward, Hooper, Wood, Whiting, S. W. Hall, Boardman, Hillard, Thayer, Cook, Hayden, Sanborn and Stover, with such as the Board of Aldermen may join, be a Committee to consider and report what amendments ought to be made in the City Charter.

Sent up for concurrence.

P. W. CHANDLER, *President.*

In the Board of Aldermen, February 7, 1845.

Read and concurred, and Aldermen Parker, Hathaway, Leavitt, Perkins and Pope were joined.

WILLIAM PARKER,
Chairman pro tem Board of Aldermen.

In City Council, February 12, 1845.

The Committee upon the subject of the revision of the City Charter, having considered that subject, and having by their Sub-committee, consulted the opinion of the City Solicitor upon the necessary provisions to avoid the embarrassments and difficulties which heretofore have been occasioned from the imperfect provisions now existing in that act,—respectfully Report the accompanying amendatory Act—and recommend the adoption of it, to be presented to the Legislature for their action.

Per order of the Committee,

WILLIAM PARKER, *Chairman.*

COMMONWEALTH OF MASSACHUSETTS.

In the year one thousand eight hundred and forty-five.

AN ACT

Providing in certain cases for the Election of City Officers in the City of Boston.

SECT. 1. *Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same,* That whenever it shall appear by the regular returns of the elections for City officers in the City of Boston, that a Mayor has not been chosen, or that a full Board of Aldermen has not been elected—such of the Board of Aldermen, whether they constitute a quorum or not, as may have been chosen shall issue their warrant in usual form for the election of such Mayor or such members of the the Board of Aldermen as may be necessary, and the same proceedings shall be had and repeated until the election of a Mayor and Aldermen shall be completed and all vacancies be filled in the said Board, and in case neither a Mayor nor any Aldermen shall be elected at the usual time for electing the same—and after the powers of the former Mayor and Aldermen shall have ceased, it shall be the duty of the President of the Common Council to issue his warrant in the same manner as the Board of Aldermen would have done if elected, and the same proceedings shall be had and repeated until a Mayor or one or more Aldermen shall be elected.

SECT. 2. Whenever it shall appear to the Mayor and Aldermen that there is a vacancy in either the Board of Aldermen or in the Common Council or in any of the City or Ward offices, it shall be the duty of the Mayor and Aldermen to issue their warrant for elections in due form to fill all such vacancies in each and all of the said Boards and offices at such time and place as in their judgment may be deemed advisable.

SECT. 3. That it shall be the duty of all Ward officers authorized to preside at and act at elections to attend, and perform their respective duties at the times and places appointed for the election of any officers, whether of the United States, State, City, or Wards, and to make and sign the regular returns of the same—and in case of the absence of any or either of the Ward officers at any meeting for elections or other purposes, such office may be filled pro tempore by the legal voters present, which may be done by nomination and hand vote, if the voters present so determine.

Sect. 4. In case of the non-election of a Mayor, the Chairman of the Board of Aldermen shall discharge all the duties incumbent on the Mayor of the City prescribed by the City Charter or any other law, or any ordinance of said City of Boston, which now or hereafter may be required of him, until a Mayor shall be chosen and duly sworn to the discharge of his duties—and such Chairman, with the Board of Aldermen, shall discharge all the duties incumbent on the Mayor and Aldermen.

Sect. 5. All City officers, after their election, shall be held to discharge the duties to which they have been elected, being residents of the Ward at the time of their election—notwithstanding their removal afterwards out of their Ward into any other Ward of the City.

Sect. 6. This act shall go into operation from and after its passage.

In the Board of Aldermen, Feb. 13, 1845.

Report read and accepted.
Sent down for concurrence.

WILLIAM PARKER,
Chairman pro tem.

City Document.—No. 5.

CITY OF BOSTON.

BOSTONIA
CONDITA A.D.
1630.

PUBLIC SCHOOLS.

In School Committee, February 11, 1845.

The special Committee, to whom was referred the petition of Charles Leighton and others, respecting the organization of the Wells School, with instructions to report "what action should be had thereon, and, also to report what effect any action on that subject will have on any other schools of the City," have attended to their commission, and present the following

REPORT:

The Wells School, in McLean Street, as now organized, receives both sexes of scholars; but by an order of the School Board, passed in July last, the boys are now to be removed, and the School is to be organized for girls only. Under these circumstances the prayer of the petitioners is, that the operation of the order of July may be stayed, and that the Wells School may remain unchanged. This school is situated in the midst of a more dense population, and draws its scholars from a smaller extent of territory, than any other School in the City. It is regarded with much interest by the inhabitants whose children attend it, and seems to be the occasion of an uncommon degree of neighborhood community. There can be no doubt, that the measure of withdrawing the boys, and sending them to Schools out of the neighborhood, is regarded with universal repugnance, both by the children and the parents. Your Committee find, however, a more weighty objection to the removal of the boys from the Wells School, than either the attachment of the scholars to their teachers, or the preference of the parents for the existing organization. It is the inconvenience of access to the Schools to which these boys must be sent. According to the order of July, about one half of the boys of this school must be sent north, across Leveret and Lowell, and through Causeway Street, to Lancaster street; while the other half must be sent south, across Cambridge, and up Centre street, on the northwestern side of Beacon Hill, to Pinckney street. Those who are sent north must cross the thoroughfare of the trucks and carriages of the Lowell Rail Road Depot; while those sent south must ascend and descend a street, which is so steep, that few passengers venture upon it, during the season of snow and ice.

Your Committee consider these objections to the provisions of the order of July to be valid, and to be obvious to any one who shall inspect the premises. They are, therefore, of opinion, that the prayer of the petitioners, relative to the Wells School, ought to be granted, if it can be done without prejudice to the interests of any of the other Schools; and the question arises, by what convenient variation of the provisions of the order of July can the desired object be effected?

The Phillips School in Pinckney street, consisting of boys only, now numbers but little more than half its complement of scholars, and the order of July contemplates filling its vacant seats with boys from the Wells School. The Bowdoin School in Derne street, consisting of girls only, is now over-charged with scholars, and the order contemplates its relief, by sending its surplus to occupy the room to be made vacant by the departure of the boys from the Wells School. It is here to be observed, that there is no school for girls in the sixth ward, wherein the Phillips School is situated, and most of the girls who reside in this ward attend the Bowdoin School. In this state of things, the most direct way to effect the object prayed for, and render the attendance of scholars convenient in all the Schools concerned would be, to establish a department for girls in the Phillips School. This measure, however, is out of the question for the present, owing to the present state of the Phillips School building; and your Committee are led to inquire, by what convenient arrangement the object can be effected, without disturbing the Phillips School.

It has been ascertained that, according to the present organization of the several Schools north of the Phillips School, the whole number of seats for boys is 1396, and the whole number of boys to be provided for is 1397. The whole number of seats for girls in the same territory is 1688, and the whole number of girls to be provided for is 1987. Now, the daily attendance in our schools is from 15 to 20 per cent. less than the number of scholars enrolled; and, computing absences at 17 per cent., we find that there are, north of the Phillips School, a sufficient number of seats for all the girls, and 236 seats more than a sufficient number for all the boys residing in this portion of the City. These facts show, conclusively, that it is inexpedient to send any boys out of this region, south, to occupy seats in the Phillips School.

Your Committee therefore recommend, that the organization of the Wells School for both sexes of scholars be continued; and that the scholars in the Schools north of Pinckney street be apportioned, as nearly as practicable, to the number of seats in the several school houses. To this effect the appended orders are proposed.

If the measures herein recommended should be adopted by the Board, there will continue to be, as at present, in the Phillips School, vacant seats for about 200 boys, and, in all the Schools north of the Phillips School, vacant seats for about 230 boys more. These seats cannot be occupied until the annual transfer of scholars from the primary schools shall take place, on the first Monday of May next. About one half of these seats will then be required for boys, and the other half for girls. And since they are now all appropriated for boys, it will be necessary for the Board, before the month of May shall arrive, to determine whether it will institute a department for girls in the Phillips School, or displace the department of boys now in the Wells School, and appropriate both rooms of the house for girls.

Respectfully submitted.

FREDERICK EMERSON, *Chairman.*

CITY OF BOSTON.

In School Committee, February 11, 1845.

Ordered, That the present organization of the Wells School for both sexes of scholars, shall be continued, until the further order of the Board.

Ordered, That, for the purpose of constituting the Otis School, and justly apportioning the number of scholars to attend the other schools in the northern part of the City, the provisions of the following table shall be adopted—subject, however, to such slight variations as the Sub-committees of the several Schools from which scholars are to be transferred shall judge proper.

The Eliot School, having	476	boys,
Shall send	50	to the Endicott,
and	10	to the Mayhew,
Leaving	416	for 400 seats.
The Endicott having	283	boys,
Shall receive	50	from the Eliot,
	333	
Shall send	110	to the Otis,
and	10	to the Mayhew,
Leaving	213	for 200 seats.
The Mayhew having	360	boys,
Shall receive	20	from the Wells,
	10	from the Eliot,
and	10	from the Endicott,
	400	
Shall send	40	to the Otis,
Leaving	360	for 360 seats.
The Wells having	231	boys,
Shall send	10	to the Otis,
and	20	to the Mayhew,
Leaving	201	for 200 seats.
The Otis shall receive	110	boys from the Endicott
	40	from the Mayhew,
	10	from the Wells,
	47	from New North,
Making	207	for 236 seats.

The Endicott having	318	girls,
Shall receive	52	from the New North,
and	20	from the Hancock,
	390	
Shall send	150	to the Otis,
Leaving	240	for 200 seats.
The Hancock having	540	girls,
Shall receive	60	from the New North,
	600	
Shall send	20	to the Endicott,
and	50	to the Otis,
Leaving	530	for 448 seats.
The Bowdoin, having	662	girls,
Shall send	30	to the Otis,
and	35	to the Wells,
Leaving	597	for 504 seats.
The Wells, having	305	girls,
Shall receive	35	from the Bowdoin,
Making	340	for 300 seats.
The Otis shall receive	50	girls from New North,
	150	from the Endicott,
	50	from the Hancock,
	30	from the Bowdoin,
Making	280	for 236 seats.

The scholars to be transferred as above, shall be those, and those only, who reside nearest the School to which they are sent, and farthest distant from the School from which they are sent. Members of the first division of the first class may, if they choose, remain in their present Schools, unaffected by this order of transfer.

Mr. Bartlett moved to strike out the foregoing orders, and in lieu thereof insert,

Ordered, That the petitioners have leave to withdraw their petition. After discussion, the whole subject was laid upon the table and ordered to be printed.

Attest,

S. F. McCLEARY, *Secretary*.

City Document.—No. 6.

CITY OF BOSTON.

UNACCEPTED STREETS.

In Common Council, February 27, 1845.

Read twice, laid on the table and ordered to be printed.

Attest, W. P. Gregg, *Clerk.*

In City Council, February 26, 1845.

The Joint Special Committee, to whom was referred the petition of Isaac C. Pray and two thousand other legal voters upon the subject of unaccepted Streets and the connection of the City Authorities therewith, respectfully

REPORT:

That in the increasing state of the City, both as regards the population and improvement of the territory therein, there is much embarrassment as the law now stands. Many streets which are now private property and upon which much valuable taxable estate has been located, are sought to be surrendered to the City Authorities as public highways, over which the Surveyors of highways have neither power or control. Still they are used as such highways and thoroughfares, but are in a perilous condition, for passengers and vehicles of any description. Nor are they in a condition to be accepted, inasmuch as they are liable to settle and be come full of chasm. Nor can they be lighted. This is a great inconvenience, inasmuch as the night police have found them to be made the sheltering places for the night burglar and prowling thief. That should said streets be lighted at the instance of the City Authorities, this would render the City liable for all accidents and casualties incident to public highways; and your Committee are of opinion that at present no authority exists in the City authorities to remedy the evil complained of without the intervention of the Legislature. Wherefore to that end they append the accompanying order and recommend the adoption of the same by the Council.

Per order of the Committee,

WILLIAM PARKER, *Chairman.*

City Council, February 26, 1845.

Ordered, That the Mayor be requested to make application forthwith to the Legislature, for such an act, authorizing the City Authorities to cause such unaccepted Streets within the City to be laid out and graded, as in their judgment may be necessary for public convenience, at the expense of the abutters, preparatory to the acceptance of the same by the City Authorities, in such a manner as that the City may be indemnified for the safety and convenience of the inhabitants of the City, by a lien on such estates in said Streets as may be directly or remotely interested therein; and that a bill be drafted for that purpose to be presented to the Legislature for their action and enactment, under the direction of the Mayor.

In the Board of Aldermen, February 26, 1845.

Read, accepted and the order passed.

Sent down for concurrence.

WILLIAM PARKER,

Chairman Board of Aldermen pro tem.

City Document—No. 7.

THE
MAYOR'S ADDRESS
TO THE
CITY COUNCIL OF BOSTON,

FEBRUARY 27, 1845.

PRINTED BY ORDER OF THE CITY COUNCIL.

BOSTON:
JOHN H. EASTBURN, CITY PRINTER,
No. 18 State Street.
1845.

CITY OF BOSTON.

In Common Council, February 27, 1845.

Ordered, That the President request of his Honor the Mayor, a copy of the Address this day delivered by him to the City Council; and that the same be printed.

W. P. GREGG, *Clerk C. Council.*

ADDRESS.

Gentlemen of the City Council:

I do not propose to go into a review of the doings of the City Government for the past year.

Many of you have been actively engaged, under my esteemed predecessor, in bringing about those results which are alike creditable to the government and satisfactory to the people, and which inspire us with the hope that we may be equally successful in the numerous and arduous duties that will devolve upon us.

By a reference to the reports from the various branches of the City Government, it will be seen that the affairs of the City are in a state of general prosperity. The House of Industry, the House of Correction, the House of Reformation, and the Lunatic Hospital—institutions of inestimable value to the poor and unfortunate—reflect great credit upon the City by the continued good management and success of their efficient and experienced officers.

The short time allowed me to make a personal investigation of the financial concerns of the City, will render it impracticable for me to give you a detailed report of their condition—and it is the less necessary from the fact that they have been given to you, and through you to the public, somewhat extensively in the closing addresses of my predecessor, and the President of the Common Council. The various measures to be submitted for your action will be presented from time to time, as I shall become more familiar with them.

The great and important measure to come before the City Government for their deliberation and action, is the introduction of pure water into the City. It is now some twenty years since the introducing of pure soft water from abroad has been extensively discussed, both in public and private. While the City was comparatively small and confined to the grounds formed by nature, in which wells were easily sunk and springs found, the necessity of introducing a supply from abroad was not so sensibly felt. But of late years we have been gradually extending on all sides by the formation of new lands, till at the present time more than one third of the whole population of the City are located on grounds once flowed by the tides. On these made lands great difficulty is experienced in finding good and sufficient springs, and when found, they are, by filtration of brackish water, soon rendered unfit for use.

It has therefore been decided after mature discussion in public meetings held for the purpose, by a vote of about three to one, that it is expedient to have water brought into the City at the public expense, from Long Pond, and by a vote of seven to one that it should be introduced from some source—the water, when introduced, to be received and paid for by the citizens, on such terms and in such manner as shall be decided upon by the Commissioners appointed for that purpose.

In accordance with the will of the people thus expressed, the City Council have petitioned the Legislature for an act empowering them to carry out the wishes of the people. When the act shall have been received by the City Government, it will doubtless proceed forthwith to the consideration of the incipient measures to be adopted in relation to this important subject.

The interesting and able report of the Commissioners has been printed and is before you, and it will therefore be unnecessary for me to go into detail. A brief outline, however, of some of the essential results at which they arrive, may not be inappropriate.

The population of the City is now estimated at 110,000. It will be, it is computed, 125,000 by the time the water works can be completed and the water introduced into the City. It is thought desirable to provide for 250,000, double the population the City may be expected to contain at the completion of the works. The quantity of water, it is supposed, that would be sufficient for each individual, is 28½ gallons, this being the quantity furnished to the Philadelphians by their works. At this ratio the supply to a population of 250,000 is 7,125,000 gallons per day, being equal to 950,000 cubic feet, or nearly a regular flow of eleven cubic feet per second. Long Pond is estimated to cover an area of about six hundred acres. Various calculations have been gone into by the Commissioners to show that by raising the dam at the outlet, it is capable of producing a constant flow of twelve feet per second, being sufficient for the City at double its present population.

It is proposed to bring the water from Long Pond to Corey's Hill in Brookline, four miles from the City, through an aqueduct of brick of an oval form five feet in width, and six feet four inches in height in the interior. It is proposed that the brick work shall be eight inches in thickness, and that the whole structure shall be covered with earth to the depth of four feet. It is proposed also by the Commissioners that the conduit shall incline three inches to the mile, that being sufficient, it is believed, to admit of a flow of eleven cubic feet per second—the conduit being filled to a depth of three feet ten inches, leaving a space of two feet and a half empty.

At Corey's Hill it is proposed to construct a reservoir that will contain a day's supply. The water in the reservoir will be 120 feet above the marsh level. From this reservoir the water is to be conveyed through iron pipes of 30 inches in diameter to the Tremont road near the Roxbury line. At this point it is proposed to send off a branch of perhaps 12 inches in diameter to a reservoir on Dorchester Heights, for the supply of South Boston. Another is to be carried through Tremont street to Boylston street. Here two branches are to be sent off to reservoirs on Beacon Hill and Fort Hill. From these reservoirs the water is to be conveyed to all parts of the City and distributed to the citizens, the source being such as to allow the water to flow to the height of four feet above the floor of the State House, a sufficient height to allow it to flow into the first story of every house in the City, and over the roofs of most of them. The estimated cost of these works is about two millions of dollars.

The undertaking is one of great magnitude, surpassing anything hitherto entered upon by the City Government. It will involve the City in a large outlay, and when completed, in a heavy annual expense. It should therefore be proceeded in with great caution and prudence. The advantages of an abundant supply of pure soft water to the health and happiness of the citizens is beyond calculation. I doubt not, should the undertaking be successfully carried through, at the cost estimated by the Commissioners, it could then be said by our citizens of the Long Pond Water Works, as is now said by those enjoying the benefits of the Croton Water Works, notwithstanding their immense cost, "no one regrets their construction."

The numerous and exaggerated statements that have been freely circulated in reference to the objects and aims of the American Republican party, which has recently sprung into existence, and is so rapidly increasing in many parts of the country, require a word upon this subject. It is not the object of the American party, by word or act, to engender unkind feelings between the native born and foreign citizens. Its object is by the establishment of general and salutary naturalization and registration laws, by educational and moral means, to place our free institutions upon such a basis that those who come after us, the descendants both of the foreigner and American citizen may be free and independent. The foreigner equally with the native citizen, if he has a regard for his posterity, is interested in the recent American movement. If the foreigner's own supposed rights are abridged, it is that his descendants may enjoy them to the full.

Foreigners now on our shores should be treated with kindness and sympathy. Their rights should be protected, and their wrongs redressed. Nothing should be done to excite animosity between them and the native citizen. Multitudes of noble and high minded men have fled to our shores that they might find here that liberty, tranquillity, and happiness, denied them on their native soil. Those of this class who sleep with our fathers, their memories we cherish, and those that are still with us—and they are interwoven in all our circles—their characters we respect. Our object is to maintain and transmit the blessings of our free institutions to our posterity, that they may not experience the same evils, and be subject to the same oppressions that are now so severely felt under the despotic governments of the Old World.

Boston was invested with City powers in 1822. John Phillips, its first Mayor, held the office one year; Josiah Quincy, six; Harrison Gray Otis, three; Charles Wells, two; Theodore Lyman, jr., two; Samuel T. Armstrong, one; Samuel A. Eliot, three; Jonathan Chapman, three; Martin Brimmer, two. All these individuals, nine in number, are now living, with the exception of Mr. Phillips, and are receiving from their fellow citizens that respect due to those who have fearlessly discharged their duties, and faithfully served their fellow men. Succeeding, in the responsible duties of the Mayoralty, to these distinguished individuals, I should do injustice to my feelings, did I not express my grateful sense of the high honor so unexpectedly conferred upon me, and also my deep conviction of the utter impossibility of discharging, acceptably, the numerous and complicated duties devolving upon me, without the cordial coöperation of my fellow citizens, and more especially of those with whom I shall be officially surrounded. With such aids, and a disposition on their part to pass lightly over imperfections, I can only say, that if integrity of purpose, concentration of effort, and devotion of time, will, in any measure, compensate for the experience and ability of my predecessors, nothing shall be wanting in my official capacity to render the City prosperous and happy.

City Document.—No. 8.

CITY OF BOSTON.

COASTING IN STREETS.

In Common Council, March 6, 1845.

Read a second time, laid on the table and ordered o be printed.

Attest, W. P. GREGG, *Clerk.*

In Common Council, February 27, 1845.

The Committee to whom was recommitted the Report of the 20th inst., with instructions to report an Ordinance prohibiting Coasting in the Streets, herewith submit an Ordinance entitled an Ordinance prohibiting Coasting in the Streets.

S. S. LITTLEHALE, } *Committee.*
CYRUS CUMMINGS, }

CITY OF BOSTON.

AN ORDINANCE

Prohibiting Coasting in the Streets.

SECT. 1. *Be it ordained by the Mayor, Aldermen and Common Council of the City of Boston, in City Council assembled,* That whoever shall course upon sleds in any of the streets, or upon any of the sidewalks in this City, shall forfeit and pay for each offence a sum not less than one dollar, and not more than twenty dollars, to be paid by each offender respectively.

SECT. 2. *Be it further ordained*, That section twelfth of the Ordinance passed August 22, A. D. 1833, to prevent unlawful practises in the streets of the City, be, and the same is hereby repealed.

City Document.—No. 9.

MUNICIPAL REGISTER,

CONTAINING

RULES AND ORDERS

OF

THE CITY COUNCIL,

AND A

LIST OF THE OFFICERS

OF THE

CITY OF BOSTON,

FOR

1845:

WITH A

LIST OF THE CITY GOVERNMENT,

FROM ITS ORGANIZATION TO THE PRESENT TIME.

BOSTON:
JOHN H. EASTBURN, CITY PRINTER.
1845.

CITY OF BOSTON.

JOINT RULES AND ORDERS

OF THE

CITY COUNCIL.

Sect. 1. At the commencement of the Municipal year, the following Joint Standing Committees shall be chosen by ballot, viz:

A Committee on Finance—

To consist of the Mayor and seven members of the Common Council;

A Committee on Accounts—

To consist of two Aldermen and three members of the Common Council;

And a Board of Visitors of the Boston Lunatic Hospital—

To consist of the Mayor, two Aldermen, and four members of the Common Council.

And the following shall be appointed, viz :

A Committee on the Public Lands—

To consist of two Aldermen and three members of the Common Council ;

A Committee on Public Buildings—

To consist of the Mayor, two Aldermen, and five members of the Common Council ;

A Committee on Public Instruction—

To consist of the Mayor, two Aldermen, and the President and four members of the Common Council ;

A Committee on the Gaol and the Houses of Correction, Industry, and Reformation—

To consist of the Mayor, two Aldermen, and five members of the Common Council ;

A Committee on Fuel—

To consist of the Mayor, two Aldermen, and five members of the Common Council ;

A Committee on Water—

To consist of the Mayor, two Aldermen, and five members of the Common Council ;

A Committee on the Treasury Department—

To consist of two Aldermen and three members of the Common Council.

On all Joint Committees wherein it is provided that the Mayor shall be a member, in case of the non-election, death, absence, or resignation of that officer, the Chairman of the Board of Aldermen shall act ex officio.

And the members of the Board of Aldermen and of the Common Council, who shall constitute the Joint Standing Committees, shall be chosen or appointed by their respective Boards.

The Mayor, the President of the Common Council, and the Chairman of the Committee of Finance on the part of the Common Council, shall, according to the ordinance, constitute the Committee on the Reduction of the City Debt.

The member of the Board of Aldermen first named on every Joint Committee, of which the Mayor is not a member, shall be its Chairman; and in case of his resignation or inability, the member of the same Board next in order, and after him, the member of the Common Council, first in order, shall call meetings of the Committee and act as Chairman.

Sect. 2. In every case of an amendment of an ordinance agreed to in one Board and dissented from in the other, if either Board shall request a conference, and appoint a Committee of Conference, and the other Board shall also appoint a Committee to confer, such Committees shall, at a convenient hour, to be agreed upon by their Chairmen, meet and state to each other verbally or in writing, as either shall choose, the reasons of their respective Boards, for and against the amendment, confer freely thereon, and report to their respective branches.

SECT. 3. When either Board shall not concur in any ordinance sent from the other, notice of such non-concurrence shall be given by written message.

SECT. 4. Either Board may propose to the other, for its concurrence, a time to which both Boards will adjourn.

SECT. 5. All By-laws passed by the City Council shall be termed "Ordinances," and the enacting style shall be :—Be it ordained by the Mayor, Aldermen, and Common Council of the City of Boston, in City Council assembled.

SECT. 6. In all votes, when either or both branches of the City Council expresses any thing by way of *command*, the form of expression shall be "Ordered ;" and whenever either or both branches express *opinions*, *principles*, *facts*, or *purposes*, the form shall be "Resolved."

SECT. 7. In the present and every future financial year, after the annual order of appropriations shall have been passed, no subsequent expenditure shall be authorized for any object, unless provision for the same shall be made by special transfer from some of the appropriations contained in such annual order, or by expressly creating therefor a City Debt ; in the latter of which cases the order shall not be passed, unless two-thirds of the whole number of each branch of the City Council shall vote in the affirmative, by vote taken by yea and nay.

Sect. 8. Joint Standing Committees shall cause records to be kept of their proceedings, in books provided by the City for that purpose. No Committee shall act by separate consultations, and no report shall be received, unless agreed to in Committee actually assembled.

Sect. 9. It shall be the duty of every Joint Committee, to whom any subject may be specially referred, to report thereon within four weeks, or ask for further time.

Sect. 10. All reports and other papers, submitted to the City Council, shall be written in a fair hand, and no report or endorsement of any kind shall be made on the reports, memorials, or other papers referred to the Committees of either branch. And the Clerks shall make copies of any papers to be reported by Committees, at the request of the respective Chairmen thereof.

Sect. 11. No Committee shall enter into any contract with, or purchase, or authorize the purchase of any articles of, any of its members.

Sect. 12. No Chairman of any Committee shall audit or approve any bill or account against the City, for any supplies or services, which shall not have been ordered or authorized by the Committee.

RULES AND ORDERS

OF THE

COMMON COUNCIL.

Rights and Duties of the President.

SECT. 1. The President shall take the chair precisely at the hour to which the Council may have adjourned; he shall call the members to order, and on the appearance of a quorum, shall cause the minutes of the preceding meeting to be read, and proceed to business. In the absence of the President, the oldest member present shall call the Council to order, and preside until a President *pro tempore* shall be chosen by ballot. If, upon a ballot for President *pro tempore*, no member shall receive a majority of the votes given in, the Council shall proceed to a second ballot, in which a plurality of votes shall prevail.

SECT. 2. He shall preserve decorum and order; he may speak to points of order in preference to other members, and shall decide all questions of order, subject to an appeal to the Council, on motion of any member regularly seconded.

Sect. 3. He shall declare all votes ; but if any member doubt the vote, the President, without further debate upon the question, shall require the members voting in the affirmative and negative, to rise and stand until they are counted, and he shall declare the result ; but no decision shall be declared unless a quorum of the Council shall have voted.

Sect. 4. He shall rise to address the Council, or to put a question, but may read sitting.

Sect. 5. The President may call any member to the chair ; provided such substitution shall not continue longer than one meeting. When the Council shall determine to go into Committee of the Whole, the President shall appoint the member who shall take the chair. The President may express his opinion on any subject under debate ; but in such case, he shall leave the chair, and appoint some other member to take it ; and he shall not resume the chair while the same question is pending. But the President may state facts, and give his opinion on questions of order, without leaving his place.

Sect. 6. When any member shall require a question to be taken by yeas and nays, the President shall take the sense of the Council in that manner, provided *one-third* of the members present are in favor of it.

Sect. 7. He shall propound all questions in the order in which they are moved, unless the subsequent motion shall be previous in its nature; except that in naming sums and fixing times, the largest sum, and the longest time, shall be put first.

Sect. 8. After a motion is seconded, and stated by the President, it shall be disposed of by vote of the Council, unless the mover withdraw it before a decision, or amendment.

Sect. 9. The President shall consider a motion to adjourn, as always in order, unless a member has possession of the floor, or any question has been put and not decided; and it shall be decided without debate.

Sect. 10. He shall put the previous question in the following form: "Shall the main question be now put?"—and all amendments or further debate of the main question shall be suspended, until the previous question be decided; and the previous question shall not be put, unless a majority of the whole Council are in favor of it.

Sect. 11. When two or more members happen to rise at the same time, the President shall name the member who is first to speak.

Sect. 12. All Committees, except such as the Council determine to select by ballot, shall be nominated by the President.

Rights and Duties of Members.

SECT. 13. When any member is about to speak in debate, or deliver any matter to the Council, he shall rise in his place, and respectfully address the Presiding Officer; shall confine himself to the question under debate and avoid personality. He shall sit down as soon as he has done speaking.

SECT. 14. No member, in debate, shall mention another member by his name; but may describe him by the ward he represents, the place he sits in, or such other designation as may be intelligible and respectful.

SECT. 15. No member speaking shall be interrupted by another, but by rising to call to order, or to correct a mistake. But if any member in speaking, or otherwise, transgress the Rules of the Council, the President *shall*, or any member *may*, call to order; in which case, the member so called to order shall immediately sit down, unless permitted to explain; and the Council, if appealed to, shall decide on the case, but without debate.

SECT. 16. When any member shall violate any of the Rules and Orders of the Council, and the Council shall have determined that he has so transgressed, he shall not be allowed to speak, unless by way of excuse for the same, until he has made satisfaction.

SECT. 17. No member shall speak more than twice to the same question, without first obtaining leave of the Council; nor more than once, until all other members, choosing to speak, shall have spoken.

SECT. 18. When a motion is made and seconded, it shall be considered by the Council, and not otherwise; and no member shall be permitted to submit a motion in writing, until he has read the same in his place, and it has been seconded.

SECT. 19. When a question is under debate, no motion shall be received, but to adjourn; to lie on the table; for the previous question; to postpone to a day certain; to commit; to amend; or to postpone indefinitely; which several motions shall have precedence in the order which they stand arranged.

SECT. 20. Every motion shall be reduced to writing, if the President direct, or any member of the Council request it.

SECT. 21. When a motion has once been made, and carried in the affirmative or negative, it shall be in order for any member voting with the majority, to move for a reconsideration, and if such motion is seconded, it shall be open to debate, and be disposed of by the Council. And in case the motion be made at the same meeting, it shall be competent for a majority of the members present to pass a vote of reconsideration; but if it be not made until the next meeting, the subject shall not be reconsidered unless a majority of the whole Council shall vote therefor. But no more than *one* motion for the reconsideration of any vote shall be permitted.

Sect. 22. No member shall be permitted to stand up, to the interruption of another, whilst any member is speaking; or to pass unnecessarily between the President and the person speaking.

Sect. 23. Every member who shall be in the Council, when a question is put, shall give his vote, unless the Council, for special reasons, excuse him.

Sect. 24. On the "previous question," no member shall speak more than once without leave.

Sect. 25. The division of a question may be called for when the sense will admit of it.

Sect. 26. When the reading of a paper is called for, and the same is objected to by any member, it shall be determined by a vote of the Council.

Sect. 27. No standing rule or order of the Council shall be suspended, unless *three-fourths* of the members present shall consent thereto; nor shall any rule or order be repealed or amended, without one day's notice being given of the motion therefor, nor unless a majority of the whole Council shall concur therein.

Sect. 28. Every member shall take notice of the day and hour to which the Council may stand adjourned, and shall give his punctual attendance accordingly.

Sect. 29. No member shall be obliged to be on more than two Committees at the same time, nor to be Chairman of more than one.

Of Communications, Committees, Reports, and Resolutions.

Sect. 30. All memorials and other papers addressed to the Council, shall be presented by the President, or by a member in his place, who shall explain the subject thereof, and they shall lie on the table, to be taken up in the order in which they are presented, unless the Council shall otherwise direct.

Sect. 31. Standing Committees of this Council shall be appointed on the following subjects, viz: on Elections and Returns, and on Enrolled Ordinances and Resolutions, each to consist of five members.

Sect. 32. No Committee shall sit during the sitting of the Council, without special leave.

Sect. 33. The rules of proceeding in Council shall be observed in Committee of the Whole, so far as they may be applicable, excepting the rules limiting the times of speaking; but no member shall speak twice to any question, until every member choosing to speak shall have spoken.

Sect. 34. When Committees of the Council, chosen by ballot, or Committees consisting of one member from each ward, have been appointed or elected, whether joint or otherwise, the first meeting thereof shall be notified by the Clerk, by direction of the President, and they shall organize by the choice of Chairman, and report to the Council; and when Committees, other than as above specified, are nominated by the President, the person first named shall be Chairman, and in case of the absence of the Chairman, the Committee shall have power to appoint a Chairman *pro tem.*

Sect. 35. All messages to the Mayor and Aldermen, shall be drawn up by the Clerk, and sent by the Messenger.

Sect. 36. All ordinances, resolutions, and orders shall have two several readings, before they shall be finally passed by this Council; they shall then be enrolled by the Clerk, and the Committee on Enrolled Ordinances shall, as soon as may be, examine them, and certify on the back thereof that they are duly enrolled.

Sect. 37. No ordinance, order or resolution imposing penalties, or authorizing the expenditure of money, shall have more than one reading on the same day.

Sect. 38. The seats of the members of the Council shall be numbered and determined by lot; and no member shall change his seat but by permission of the President.

Sect. 39. All Special Committees of this Council shall consist of three members, unless a different number be ordered. And no report shall be received from any Committee, unless agreed to in Committee actually assembled.

Sect. 40. The Clerk shall keep brief minutes of the votes and proceedings of the Council,—entering thereon all accepted Orders and Resolutions: —shall notice Reports, Memorials, and other papers submitted to the Council, only by their titles, or a brief description of their purport; but all accepted Reports shall be entered at length in a separate journal to be kept for that purpose, and provided with an index.

Sect. 41. All salary officers shall be voted for by written ballot.

Sect. 42. It shall be the duty of all Standing Committees of the Council to keep records of their doings, in books provided for that purpose by the Clerk; and it shall be the duty of the Clerk to attend the meetings of said Committees and of the Special Committees, and make said records when required so to do.

Sect. 43. No meeting of any Committee shall be called upon less notice than twenty-four hours.

Sect. 44. In all elections by ballot, on the part of the Council, blank ballots and all ballots for persons not eligible, shall be reported to the Council, but shall not be counted in making up the returns, except in cases where this Council have only a negative upon nominations made by the Mayor and Aldermen.

SECT. 45. It shall be the duty of every Committee of the Council, to whom any subject may be specially referred, to report thereon within four weeks from the time said subject is referred to them, or ask for further time.

RECENT

LAWS AND ORDINANCES.

An Ordinance in addition to an Ordinance in relation to Common Sewers and Drains.

Be it ordained by the Mayor, Aldermen and Common Council of the City of Boston, in City Council assembled, as follows :

SECT. 1. It shall be the duty of the Mayor and Aldermen, in making assessments for defraying the expense of constructing or repairing Common Sewers, pursuant to the provision of the Ordinance to which this is in addition, to deduct from the said expense such part, and not less than one quarter part, as they may deem it expedient, should be charged to, and paid by the City ; and to assess the remainder thereof upon the persons and estates deriving benefit from such Common Sewer, either by the entry of their particular Drains therein, or by any more remote means ;—apportioning the assessment according to the value of the lands thus benefitted, independently of any buildings or improvements thereon. And also to prescribe and establish the time when the proportion of the said assessments, which is charged upon persons benefitted, shall be paid.

SECT. 2. The eleventh section of an Ordinance entitled "An Ordinance in relation to Common Sewers and Drains," passed June 14th, 1841, and also so much of the said Ordinance as is inconsistent with the provisions of this Ordinance, are hereby repealed. [*Passed March* 7, 1844.]

An Ordinance for the regulation of Hackney Carriages, Cabs, and other Carriages, within the City of Boston.

Be it ordained by the Mayor, Aldermen and Common Council of the City of Boston, in City Council assembled, as follows :

SECT. 1. No owner, or driver, of any Hackney Carriage, Cab, or other Carriage, shall place such Hackney Carriage, Cab, or other Carriage, in any public street, lane, avenue, court, place, or square, within the City, to stand there, to be employed, unless such owner shall first obtain the consent of the Mayor and Aldermen of the City, so to place them.

SECT. 2. *Be it further ordained*, That whoever shall offend against the provisions of this Ordinance, shall forfeit and pay, for each offence, a sum not less than two dollars, nor more than twenty, to be recovered by complaint before the Justices of the Police Court. [*Passed April* 18, 1844.]

An Ordinance relating to Obstructions in the Streets.

Be it ordained by the Mayor, Aldermen, and Common Council of the City of Boston, in City Council assembled, as follows :

SECT. 1. No person shall hereafter construct or place any portico, porch, window, or step, which shall project into any street, lane, public place, or any way of the said City, under a penalty of four dollars for each offence, and a like penalty for every week that the said portico, porch, window, or step shall be continued as aforesaid.

SECT. 2. No cellar door or door-way, shall hereafter be made in any sidewalk, or projecting into any street, lane, public place, or way of the said City, for the purpose of being kept open during the day or night time, nor shall such cellar door or door-way be kept open or used as a customary entrance or passage-way from any street, lane, public place, or way of the said City, into any cellar or other part of any building, under a penalty of not less than four dollars for each and every day that the said cellar door or door-way shall be used or kept open for such purpose.

SECT. 3. No person being the owner or occupant of any building, or having the care thereof, shall permit or suffer any cellar door or cellar door-way, which is now or shall hereafter be made, and which does or shall project into any street, lane, public square, or way of the said City, beyond such building, to remain open, or the platform thereof to be removed, during any part of the night time, or for more than five hours during the day-time, unless duly permitted so to do by the Mayor and Aldermen, or by some person authorized by them, under a penalty of not more than twenty dollars for each and every offence.

SECT. 4. All Ordinances and parts of Ordinances heretofore passed, which are repugant to, or inconsistent with, the provisions of this Ordinance, are hereby repealed. [*Passed May* 30, 1844.]

An Ordinance in addition to an Ordinance regulating the going at large of Cattle.

Be it ordained by the Mayor, Aldermen and Common Council of the City of Boston, in City Council assembled, as follows :

All that part of the sixth section of an Ordinance entitled " An Ordinance in relation to the Common and Common lands of the City, and regulating the going at large of Cattle," passed November 4, 1833, which provides that any inhabitants of South Boston shall be allowed to have one Cow go at large, at South Boston, without a keeper ; and which further provides that no inhabitant of South Boston shall permit any Cow, to him belonging, to go at large without a talley on her neck, and the owner's name thereon, is hereby repealed. [*Passed June* 13, 1844.]

An Ordinance abolishing the office of City Attorney.

Be it ordained by the Mayor, Aldermen, and Common Council of the City of Boston, in City Council assembled, as follows :

That an Ordinance, entitled " An Ordinance establishing the office of City Attorney," passed April 16th, 1839, be, and the same is hereby repealed. [*Passed June* 24, 1844.]

An Ordinance in addition to an Ordinance relating to Obstructions in the Streets.

Be it ordained by the Mayor, Aldermen and Common Council of the City of Boston, in City Council assembled, as follows :

The provisions of the first section of an Ordinance entitled " An Ordinance relating to Obstructions in the Streets," passed May 30, 1844, are hereby repealed so far as the same relate to any steps, therein mentioned, which were in progress of completion, or for the erection of which contracts had been entered into, and plans agreed upon, and the time of the passage of the said Ordinance—*provided however*, that the said steps shall be finished and completed on or before the first day of January, in the year 1845. [*Passed December* 5, 1844.]

An Ordinance providing for the discharge of the duties of Mayor in certain cases.

Be it ordained by the Mayor, Aldermen and Common Council of the City of Boston, in City Council assembled, That during any vacancy in the office of Mayor, all the powers and duties heretofore exercised and performed by the Mayor, by virtue of any Ordinance, Order, or Resolve of the City Council, shall be exercised and performed by the Chairman of the Board of Aldermen for the time being. [*Passed February* 7, 1845.]

An Ordinance in addition to "An Ordinance relating to the Boston Lunatic Hospital."

Be it ordained by the Mayor, Aldermen and Common Council of the City of Boston, in City Council assembled, as follows:

SECT. 1. There shall be chosen by the City Council, annually, in the month of January or February, seven persons, including one Alderman and one member of the Common Council, who shall be a Board of Visitors of the Boston Lunatic Hospital, who shall hold their offices until others are chosen in their places, and who shall have all the powers and perform all the duties prescribed to the Board of Visitors of the said Hospital, by the Ordinance to which this is in addition.

SECT. 2. All rules and regulations which shall be made by the said Board of Visitors, for the employment, compensation and discharge of the subordinate officers, attendants and domestics, and for the government and management of the said Hospital, shall within one month after the same shall have been made, be submitted to the City Council, and such rules and regulations shall be in force until repealed by said Board of Visitors, or until disapproved of by vote of the said City Council.

SECT. 3. The first section of the Ordinance to which this is in addition, passed October 3d, 1842, and all Ordinances and parts of Ordinances inconsistent herewith, are hereby repealed. The powers and duties of the present Board of Visitors shall cease upon the election by the City Council of the new Board contemplated by this act. [*Passed March* 13, 1845.]

GOVERNMENT

OF THE

CITY OF BOSTON,

1845.

MAYOR,

THOMAS A. DAVIS,......7 Colonnade Row.

[Salary $2,500. Charter, § 12.]

ALDERMEN,

BENSON LEAVITT, ...	11 Fleet street.
WILLIAM POPE, ...	2 Garland street.
JOHN HATHAWAY, ...	23 Poplar street.
SAMUEL S. PERKINS, . . .	53 Broadway.
SIMON G. SHIPLEY, ...	64 Hanover street.
J. CULLEN AYER,	Prince, corner of Hanover.
LYMAN REED, ...	Essex street.
JAMES S. SAVAGE, ...	33 Temple street.

COMMON COUNCIL,

PELEG W. CHANDLER, PRESIDENT.

Ward No. 1.

Henry N. Hooper,	14 Sheafe street,
Perkins Boynton,	22 Charlestown street,
Cyrus Buttrick,	212 Hanover street,
Samuel P. Oliver,	96 Salem street.

Ward No. 2.

James Munroe,	12 Fleet street,
William R. Carnes,	175 Hanover street,
Benjamin Wood, 2d.,	7 New Prince street,
John Turner,	10 New Prince street.

Ward No. 3.

James Whiting,	5 Pitts street,
Asa Swallow,	29 Salem street,
Artemas Ward,	11 Elm street,
Cyrus Cummings,	11 Elm street.

Ward No. 4.

Thomas B. Curtis,	21 Mt. Vernon street,
Samuel W. Hall,	Webster street,
S. Abbott Lawrence,	Bowdoin street,
Sargent S. Littlehale,	44 Bowdoin street.

Ward No. 5.

Charles Boardman,	56 Leverett street,
Loring Norcross,	25 McLean street,
Benjamin Seaver,	46 Chamber street,
George R. Sampson,	13 Allen street.

Ward No. 6.

Peleg W. Chandler,	99 Mount Vernon street,
Kimball Gibson,	24 West Cedar street,
George S. Hillard,	54 Pinckney street,
Otis Clapp,	Pinckney, near W. Cedar.

Ward No. 7.

S. Davis Leavens,	10 Beacon street,
Gideon F. Thayer,	12 Essex street,
Joseph Bradlee,	22 Franklin place,
John B. Parker,	Tremont House.

Ward No. 8.

Samuel Topliff,	32 Washington place,
George Whittemore,	27 Washington place,
James Hayward,	14 Pearl street,
Daniel Denny,	Pearl street.

Ward No. 9.

Charles E. Cook,	3 Columbia street,
Andrew T. Hall,	5 High street,
Clement Willis,	49 High street,
Charles H. Brown,	37 Purchase street.

Ward No. 10.

Horace Williams,	Orange court,
William Hayden,	Beach street,
Henry W. Dutton,	497 Washington street,
James Dennison,	54 Carver street.

Ward No. 11.

John Green, jr.,	659 Washington street,
Greenleaf C. Sanborn,	146 Pleasant street,
George Davis,	4 Brooklyn street,
Calvin W. Haven,	71 Carver street.

Ward No. 12.

Samuel W. Sloan,	Silver street,
Theophilus Stover,	Broadway,
Thomas Jones,	Cor. 4th & Dorchester sts.
Samuel C. Demerest,	Cor. 5th & Dorchester sts.

CITY CLERK,

SAMUEL F. McCLEARY, 21 Pitts street.

Salary $1,500, and for Assistant Clerks, $600. [Chosen by City Council, on the first Monday in January. Charter, § 10.]

CLERK OF COMMON COUNCIL,

WASHINGTON P. GREGG, 2 Lyman place.

Salary $600. [Chosen on the first Monday in January. Charter, § 11.]

MESSENGER,

JOHNSON COLBY, 1 Prospect street.

Salary $800. [Charter, § 13.]

JOINT STANDING COMMITTEES.

ON THE REDUCTION OF THE CITY DEBT.

[Ord. p. 295.]

The Mayor, President of the Common Council, and the Chairman of the Committee on Finance on the part of the Common Council.

ON ACCOUNTS.

[Ord. p. 29.]

Aldermen.	*Common Council.*
John Hathaway,	James Whiting,
Lyman Reed.	Joseph Bradlee,
	Horace Williams.

VISITORS OF THE BOSTON LUNATIC HOSPITAL.

[Sup. Ord. p. 46.]

	Common Council.
The Mayor.	Gideon F. Thayer,
Aldermen.	George R. Sampson,
Samuel S. Perkins,	Otis Clapp,
J. Cullen Ayer.	Thomas Jones.

ON FINANCE.

[Ord. p. 295.]

	Common Council.
The Mayor,	William Hayden,
	Thomas B. Curtis,
	Andrew T. Hall,
	George Whittemore,
	Benjamin Seaver,
	Daniel Denny,
	Perkins Boynton.

ON PUBLIC LANDS.

[Ord. p. 298.]

Aldermen.	*Common Council.*
Benson Leavitt,	Greenleaf C. Sanborn,
William Pope.	Charles Edward Cook,
	Cyrus Buttrick.

ON PUBLIC BUILDINGS.

[Sup. Ord. p. 55.]

	Common Council.
The Mayor.	Clement Willis,
Aldermen.	Kimball Gibson,
William Pope,	James Dennison,
Samuel S. Perkins.	Asa Swallow,
	Sargent S. Littlehale.

ON PUBLIC INSTRUCTION.

The Mayor.

Aldermen.

John Hathaway,
Benson Leavitt.

Common Council.

Peleg W. Chandler, *ex officio*,
Henry W. Dutton,
George S. Hillard,
Samuel W. Sloan,
S. Abbott Lawrence.

ON JAIL, HOUSES OF CORRECTION AND REFORMATION.

The Mayor.

Aldermen.

William Pope,
Samuel S. Perkins.

Common Council.

S. Davis Leavens,
Charles H. Brown,
Loring Norcross,
Perkins Boynton,
Samuel C. Demerest.

ON FUEL.

The Mayor.

Aldermen.

John Hathaway,
Lyman Reed.

Common Council.

Samuel W. Hall,
John Green, jr.
Henry N. Hooper,
James Munroe,
Thomas Jones.

TREASURY DEPARTMENT.

Aldermen.

William Pope,
Benson Leavitt.

Common Council.

William Hayden,
Charles Boardman,
Daniel Denny.

WATER.

The Mayor.

Aldermen.

William Pope,
Samuel S. Perkins.

Common Council.

Loring Norcross,
James Whiting,
Thomas B. Curtis,
Joseph Bradlee,
James Hayward.

STANDING COMMITTEES

OF THE

MAYOR AND ALDERMEN.

ON THE POLICE OF THE CITY.

The Mayor.

ON EXTERNAL HEALTH DEPARTMENT.

Aldermen Ayer, Hathaway and Perkins.

ON INTERNAL HEALTH DEPARTMENT.

Aldermen Leavitt, Perkins and Reed.

ON THE COMMON, MALLS, FORT HILL, AND COPP'S HILL.

The Mayor, *Aldermen* Leavitt and Reed.

ON LAYING OUT AND WIDENING STREETS.

Aldermen Ayer, Shipley and Perkins.

ON PAVING AND REPAIRS OF STREETS.

Aldermen Shipley, Pope and Savage.

ON LICENSES.

Aldermen Shipley, Pope and Reed.

ON ORDINANCES.

Aldermen Reed, Ayer and Savage.

ON COMMON SEWERS AND DRAINS.

Aldermen Savage, Perkins and Reed.

ON THE FIRE DEPARTMENT AND RESERVOIRS.

The Mayor, *Aldermen* Pope and Hathaway.

ON THE MARKET.

Aldermen Hathaway, Leavitt and Shipley.

ON BURIAL GROUNDS AND CEMETERIES.

Aldermen Perkins, Pope and Reed.

ON LAMPS, BELLS AND CLOCKS.

Aldermen Hathaway, Perkins and Pope.

ON THE BRIDGES.

Aldermen Perkins and Ayer.

ON COUNTY ACCOUNTS.

Aldermen Hathaway and Reed.

STANDING COMMITTEES

OF THE

COMMON COUNCIL.

ON ELECTIONS AND RETURNS.

Samuel Topliff,
John B. Parker,
Cyrus Cummings,
John Turner,
William R. Carnes.

ON ENROLLED ORDINANCES.

Horace Williams,
Samuel P. Oliver,
Benjamin Wood, 2d.
Artemas Ward,
Theophilus Stover.

TREASURY DEPARTMENT.

James C. Dunn, *City and County Treasurer and Collector*—salary $2,000; and $2,700 for Assistant Clerks. [Chosen by the City Council in Convention, in May. City Charter, § 18.]

Willard Clough, } *Deputy Collectors.* Salary $170 each and fees.
James Pierce, } [Appointed by Treasurer. Statutes, Chap. 15, § 60. Ordinance, p. 275.]

Elisha Copeland, jr., *City Auditor*—salary $1,500. [Chosen by concurrent vote of the City Council in May—City Ordinances, p. 29.]

Assessors, Samuel Norwood, George Jackson, Henry Sargent, salary $1,200; and $400 for Assistant Clerks.

Assistant Assessors, residing in different Wards.

Ward 1...John Smith,
Daniel Bartlett, jr.
2...F. F. Raymond,
John B. Tremere.
3...Ezekiel Bates,
Samuel Jepson.
4...Benjamin Lamson,
William Denton.
5...Zachariah Jellison,
Henry Plimpton.
6...Billings Briggs,
John H. Wilkins.
Ward 7...Ezra C. Hutchins,
Wm. W. Crease.
8...Augustus Brown,
Drury Fairbanks.
9...Levi Bliss,
Bela Hunting.
10...Perez Gill,
Freeman Fisher.
11...Warren White,
Thomas Hunting.
12...Alpheus Stetson,
Jacob Herrick.

Samuel Norwood, *Secretary.*

[The Assessors and Assistant Assessors are chosen by concurrent vote of City Council, in March or April. Sup. City Ordinance, p. 68.]

The Judge of Probate and the Justices of the Police Court, constitutes the *Board of Accounts* for the County. [Revised Statutes, p. 164. Act 1843, chap. 7.]

William Knapp, *Secretary to the Board.* Salary $150.

CITY SOLICITOR.

John Pickering, *City Solicitor.* Salary $1,500 and fees. [Chosen by concurrent vote in June. City Ordinances, p. 38.]

POLICE DEPARTMENT.

The duties of *Judge of the Municipal Court of the City of Boston*, are performed by the Justices of the Court of Common Pleas, or some one of them. [Act 1843, chap. 7.]

Samuel D. Parker, *Attorney.*

Thomas W. Phillips, *Clerk.*

Henry Homer, *Crier and Messenger.*

Joseph Eveleth, *Sheriff.*

Jabez Pratt,
Watson Freeman,
Silas P. Tarbell,
Daniel J. Coburn,
Erastus Rugg,
} *Deputies.*

Coroners, Jabez Pratt, William Andrews, Charles Smith.

John Gray Rogers, James C. Merrill, Abel Cushing, } *Justices of the Police Court and of the Justices' Court.* Salary $1,500. [Ord. p. 88.]

Thomas Power, *Clerk.* Salary $1,400. [Ordinances, p. 89.]

Wm. Knapp, *Assistant Clerk.* Salary $900. [Ordinances, p. 90.]

Jonas Stratton, *Messenger.* Salary $32 per month.

James H. Blake, *City Marshal.* Salary $1,000.

[Appointed by the Mayor and Aldermen in May or June. City Ordinances, p. 226.]

Hezekiah Earl, Ira Gibbs, } *Deputy City Marshals.* Salary $700.

[Nominated by the Marshal, and approved by the Mayor and Aldermen. City Ordinances, p. 226.]

Appointed by the Mayor and Aldermen.

Police Officers.—Ebenezer Shute, jr., Jacob Hook, Samuel B. Fuller, A. E. Towle, Samuel Bowden, Merick R. Stevens, Alvan Haley, Simpson Clark, John Boardman, John W. Baxter, Joshua Dunbar, Harry C. Henry, James W. Pierce, Levi Whitcomb, Lot Day, Charles B. Rice, Grant Learnard, S. G. Gallager, Jas. M. Matthews, Constant T. Benson. Compensation $1,75 per day. [Sup. Ord. p. 53.]

Constables—Francis M. Adams, Gustavus Andrews, W. G. Babbit, Josiah Baldwin, S. F. Barrett, Frederick D. Byrnes, William P. Baker, Moses Clark, Willard Clough, Derastus Clapp, Isaac A. Cooledge, Nathaniel Cooledge, E. V. Glover, Josiah Haskell, Thomas Holden, John Henry, Richard Hosea, James Hunkins, William Loring, John Lunt, Jabez Pratt, James Pierce, Jonathan Prescott, Charles Smith, Jonas Stratton, Ebenezer Shute, Ebenezer Trescott, Jacob C. Tallant, Henry Taylor, Samuel J. Vialle, William Whitwell, Jona. Whipple, Joseph W. Leighton, Francis Merrifield, Andrew McIntire, Lysander Ripley, Erastus W. Sanborn, Elijah K. Spoor, Charles Sawin, Joseph W. Andrews, George J. Coolidge, Lucian C. Drury, Isaac B. Kimball, Thomas M. Smith.

James Barry, *Captain of the City Watch.* Salary $400. [Appointed by the Mayor and Aldermen. City Ordinances, p. 282.]

The *Night Police* consists of

1 Captain of the Watch, - - - -	$400 00 per year.
13 Constables of the Watch, - - -	1 00 per night.
139 Watchmen, - - - - - -	90 "

Nathaniel Cooledge, *Deputy Jailor.*

The Judge of Probate, and the Justices of the Police Court, are the *Inspectors of Prisons*. [Revised Statutes, p. 784. Act 1843, chap. 7.]

William Knapp, *Secretary to the Inspectors.*

HEALTH DEPARTMENT.

Jerome V. C. Smith, *Port Physician.* Salary $1,400. [Chosen by the concurrent vote of the City Council, in May or June. Sup. Ordinances, p. 34.]

George P. Tewksbury, *Keeper of Rainsford Island and Captain of the Quarantine Boat.* Salary $600 per annum, including the pay of the services of the assistant boatman. [Appointed by the Mayor and Aldermen. Sup. Ordinances, p. 175.]

Consulting Physicians, John C. Warren, George Hayward, Geo. C. Shattuck, Jacob Bigelow, John Ware. [Chosen by concurrent vote in May or June. City Ordinance, p. 57.]

Samuel H. Hewes, *Superintendent of Burials.* Salary $1,000. [Chosen by concurrent vote of the City Council, in May or June. "To be always first acted upon by the Mayor and Aldermen." City Ordinances, p. 189.]

Undertakers.—Samuel Winslow, Martin Smith, Henry Davis, Thomas Haskell, Steven S. Andrews, John Wilcutt, Thomas Andrews, Francis Dillaway, William A. Brabiner, Rodney Gove, Caleb J. Pratt, Oren Faxon, Levi Whitcomb, Franklin Smith, Timothy Nunan, Richard Dillon, John Peake, James E. Spear, Charles Houghton. [Appointed by Mayor and Aldermen. City Ordinances, p. 190.]

Charles B. Wells, *Superintendent of Common Sewers.* Salary $1,100. [Chosen by concurrent vote in May or June. Sup. City Ordinances, p. 63.]

The Mayor and Aldermen, *Surveyors of Highways.* [Ordinance, pp. 105 and 258.]

Zephaniah Sampson, *Superintendent of Streets.* Salary $1,100. [Chosen by concurrent vote in January or February. City Ordinances, p. 260.]

PUBLIC LANDS AND BUILDINGS, LAMPS AND BRIDGES.

Freeman L. Cushman, *Superintendent of the Public Lands and Public Buildings.* Salary $1,100. [Chosen by concurrent vote in April or May. City Ordinances, p. 298. Sup. Ord. p. 55.]

Daniel Rhodes, *Clerk of Faneuil Hall Market.* Salary $900. [Appointed by the Mayor and Aldermen, in June or July. Sup. City Ordinances, p. 71.]

Sullivan Sawin, *Assistant Clerk.* Salary $35 per month.

James Barry, *Superintendent of Lamps.* Salary $500. [Appointed by Mayor and Aldermen. City Ordinances, p. 214.]

There are 367 Gas Lamps and 7 Gas Lighters at 25 cts. the lamp. 1,201 Oil Lamps and 20 Oil Lighters at 32¾ cts. the lamp.

Samuel Jenkins, *Superintendent of the North Free Bridge.* Salary $500. [Chosen by concurrent vote, "first acted upon by the Mayor and Aldermen," in January or February. City Ordinances, p. 268.]

John Bragg, *Superintendent of the South Free Bridge.* Salary $200. [Chosen by concurrent vote, "first acted upon by the Mayor and Aldermen," in January or February. Sup. Ord. p. 6.]

Daniel Merrill, *Keeper of the County Court House.* Salary $700.

FIRE DEPARTMENT.

CHIEF ENGINEER,

WILLIAM BARNICOAT, 220 Hanover street. Salary $1,200.

ASSISTANT ENGINEERS. Salary $150 each.

Henry Smith,	Rear Boylston street.
James G. Sanderson,	3 Myrtle street.
Charles S. Clark,	240 Hanover street.
John Shelton,	8 Hartford place.
Peter C. Jones,	56 Warren street.
Thomas A. Williams,	3 Fayette street.
Joshua Jacobs,	1 Brattle square.

Henry Hart, *Clerk.* Salary $400.

FOREMEN OF ENGINES.

Washington Co. No. 3.	*Salem street.*
William Dyke,	13 Snowhill street.
Lyman Co. No. 5.	*Dock square.*
Horace S. Gorham,	22 Causeway street.
Hero Co. No. 6.	*Derne street.*
Theodore P. Bowker,	60 Pinckney street.
Howard Co. No. 7.	*Under City Hall.*
Lewis Beck,	17 Gibbs' lane.
Tremont Co. No. 8.	*Tremont street.*
James M. Welch,	17 London street.
Despatch Co. No. 9.	*Mason street.*
George W. Bird,	2 Morton place.
Hancock Co. No. 10.	*Friend street.*
James Quinn,	13 North Margin street.
Maverick Co. No. 11.	*Paris street, East Boston.*
John Pierce,	Sumner street.
Eagle Co. No. 12.	*Washington street, near Dover.*
Elisha Smith,	9 London street.
Melvill Co. No. 13.	*Leverett street.*
James F. Holland,	47 Merrimac street.
Eliot Co. No. 15.	*Commercial street.*
Jotham B. Munroe,	19 Charter street.
Mazeppa Co. No. 17.	*Broadway, South Boston.*
John R. Butler,	Swan Court.
Lafayette Co. No. 18.	*Pemberton hill.*
Benjamin J. Morill,	Corner of May and Pinckney sts.
Extinguisher Co. No. 20.	*East street.*
Amasa Pray,	Kneeland street.
Warren H. & L. Co. No. 1.	*Friend street.*
Dennis Smith,	51 Lowell street.
City Hose Co. No. 1.	*Pemberton hill.*
Richard S. Martin,	118 Charles street.

There are belonging to the Department, 16 Foremen of Engine, Hose, Hook and Ladder Companies, at $100 each; 16 Assistant Foremen at $75 each; 16 Clerks, at $75 each; 16 Stewards, at $100 each; and 520 Members, at $65 each.

[The Engineers and Assistant Engineers are annually chosen by the Mayor and Aldermen, with the concurrence of the Common Council. Ordinances, pp. 129, 293, and Sup. Ordinances, p. 16.]

SURVEYOR GENERAL OF LUMBER.

[By concurrent vote in February. Sup. Ord. p. 39.]

FRANCIS BULLARD,

Office No. 112 Milk street.

Deputy Surveyors appointed by the Surveyor General.

Surveyors of Pine Lumber.

Charles Bullard	No. 8 Fayette street.
George W. Cram,	" 42 Warren street.
George Dupee,	" Tremont, south of Pleasant.
George Hall,	" 4 Grove street.
Rolun Hartshorn,	" 38 Harrison avenue.
Joseph F. Huntress,	" 39 Oak street.
Charles Hersey,	" 52 Allen street.
Samuel Lamson,	" 7 Maple place.
John Lefavor,	Centre street, East Boston.
George Page,	Fourth street, South Boston.
Amasa G. Smith,	No. 29 Marion street.
Seth Thaxter,	" 83 Warren street.
Samuel Waldron,	Broadway, South Boston.

Surveyors of Mahogany and Cedar.

Nathaniel Bryant,	South Hudson, south side of Harvard street.

Surveyors of Oak, Hard Wood, &c.

Seth Brooks,	Saratoga street, East Boston.
Gad Leavitt,	Franklin House.

The following officers are first elected by the Mayor and Aldermen, with the concurrence of the Common Council. They are all paid by fees. [Ordinances, p. 105.]

Inspector of Lime.—Vacant.

Fence Viewers.—Romanus Emerson, Rolun Hartshorn.

Culler of Dry Fish.—Benjamin Luckis.

Culler of Hoops and Staves.—James Brown.

Assay Master.—Isaac Babbitt.

Field Drivers and Pound Keepers.—Wm. Fisk, Thomas Gerrish.

Surveyor of Hemp.—Benjamin Rich.

And the following officers are appointed by the Mayor and Aldermen.

Superintendent of Alien Passengers.—Calvin Bailey. Salary $500, and 10 per cent. on all moneys received, but not to exceed the further sum of $500. [Sup. Ordinances, p. 3.]

Weighers of Hay, &c.—Ebenezer Clough, John R Bradford. [Ordinances, p. 150, and Sup. Ordinances, p. 33.]

Measurers of Wood and Bark brought by Land.—John R. Bradford, Amos Bates, William Shattuck, William Fiske, Moses Hadley, Hollis Moore. [Ordinances, p. 289.]

Weigher of Boats and Lighters.—Edward Loring. [Appointed in April or May. Ordinances, p. 43.]

City Crier.—Samuel T. Edwards. [Licensed from time to time, until the first day of May following. Ordinances, p. 97.]

Sealers of Weights and Measures.—John M. Dearborn, Edward Loring. [Ordinances, p. 284.]

PUBLIC CHARITABLE INSTITUTIONS.

The Directors, Overseers and Visitors of the Houses, the Master of the House of Correction, and the Superintendent and Steward of the Boston Lunatic Hospital, are chosen by concurrent vote of the City Council. The other officers are appointed by the Directors of the different Houses.

HOUSES OF INDUSTRY AND REFORMATION.

Directors.—Joseph Lewis, Daniel Henchman, Artemas Simonds, James Means, Thomas Hollis, Nathaniel H. Emmons, Thomas Tarbell, Samuel Leeds, Alfred A. Wellington. [Chosen in May. Ordinances, p. 196.]

Superintendent.—Daniel Chandler. Salary $1,000.

Assistant Superintendent.—Thomas Seward. Salary $650.

Clerk of Directors.—Artemas Simonds. Salary $800.

In the House of Industry, there is paid to a Teamster, $300; Matron's Assistant, Overseer of Clothing and Overseer of Kitchen, each $156. There is also paid by the Trustees of the Boylston and Mason Funds, to the Chaplain, $500; Teacher of Boys, $500, and two females each $156.

In the House of Reformation Department, there is also paid to the male Teacher, $400, and his Assistant, $300; and to the Matron, $200. [Appointed by the Directors.]

The Gate Keeper receives $275, and two Assistant Farmers, one at a salary of $300, and one at $240, whose services are for both Houses.

HOUSE OF CORRECTION.

Overseers.—William T. Andrews, Geo. Darracott, Billings Briggs, Uriel Crocker, Joseph Moriarty. [Chosen from time to time. Ordinance, p. 193, Sup. Ord. p. 38.]

Charles Robbins, *Master*. Salary $1,000.

Eliphalet P. Hartshorn, *Clerk*. Salary $700.

There is also paid to four male Assistants $300 each; and to three female Assistants $200 each. Also, to one Watchman $250.

Chaplain.—Rev. Charles Cleavland. Salary $600.

BOSTON LUNATIC HOSPITAL.

Visiters.—See Joint Committees, p. 28.

C. H. Stedman, M. D., *Superintendent and Physician* to the above Institutions. Salary $1,000. [Chosen in Sept. or Oct. Sup. Ord. p. 50.]

There are also attached to this Institution

Sumner Crosby, Steward, } Salary $600 per year.
Harriot Crosby, Matron, }

four male Attendants, $180 each; four female Attendants, $130 each; one Laundress and one Housekeeper, at $156 each; two male Assistants, at $168 each per year; two assistant Cooks at $2,25 per week; one Semstress, at $2 per week; Table and Chamber Girl, $1,75 per week.

OVERSEERS OF THE POOR.

[Charter, § 19, 34.]

[*Chosen in each Ward where they reside.*]

Ward 1	Isaac H. Hazleton.	Ward 7	Thomas Tarbell.
2	Benjamin Smith.	8	John W. Warren, jr.
3	Joseph Moriarty.	9	Joseph Lewis.
4	William Freeman.	10	Joseph Eustis.
5	Daniel Henchman.	11	William Willett.
6	Billings Briggs.	12	Thomas Blasland.

James Phillips, *Secretary.* Salary $800.

PUBLIC SCHOOLS.

(Sup. Ord. p. 58.)

SCHOOL-COMMITTEE.

Thomas A. Davis, Mayor, *Chairman,* } *Ex officiis.*
Peleg W. Chandler, *President of Common Council,* }

[*The following are chosen in each Ward.*]

Ward 1	Rev. Sebastian Streeter, Henry G. Clark.	Ward 7	Charles Gordon, Thomas M. Brewer.
2	James H. Barnes, Erastus O. Phinney.	8	Rev. William Hague, Rev. Alexander Young.
3	Ezra Palmer, jr. Rev. Rollin H. Neale.	9	Edward Wigglesworth, Rev. J. I. T. Coolidge.
4	Aurelius D. Parker, Hiram A. Graves.	10	Winslow Lewis, jr. John Odin, jr.
5	Frederick Emerson, William J. Dale.	11	Rev. John T. Sargent, William Brigham.
6	Sidney Bartlett, Theophilus Parsons.	12	Alvan Simonds, Samuel G. Howe.

Samuel F. McCleary, *Secretary.*

SUB-COMMITTEES.

Books—Messrs. Wigglesworth, Hague, Parsons, Palmer and Brewer.

To confer with Primary School Committee.—Messrs. Emerson, Lewis and Phinney.

Music.—Messrs. Gordon, Sargent and Dale.

SCHOOLS.	LOCATION.	COMMITTEE.
Latin, - - -	Bedford street, - -	Messrs. The Mayor, Wigglesworth, Hague, Parsons and Coolidge.
English High,	Bedford street, - -	" Young, Parker, Lewis, Howe and Palmer.
Lyman, - -	East Boston, - -	" Graves, Barnes and Clark.
Eliot, - - -	North Bennet street,	" Clark, Streeter and Phinney.
Endicott, - -	Cooper street, - -	" Streeter, Barnes and Neale.
Hancock, - -	Hanover street, -	" Parker, Barnes and Palmer.
Mayhew, - -	Hawkins street, -	" Wigglesworth, Phinney and Graves
Bowdoin, -	Derne street, - -	" Gordon, Dale and Parsons.
Boylston, - -	Washington place,	" Hague, Young and Bartlett.
Adams, - -	Mason street, - -	" Odin, Brewer and Coolidge.
Franklin, -	Washington street,	" Brigham, Sargent and Coolidge.
Wells, - - -	McLean street, - -	" Emerson, Dale and Phinney.
Hawes, - -	South Boston, - -	" Howe, Brigham and Sargent.
Mather, - -	South Boston, - -	" Simonds, Coolidge and Neale.
Johnson, - -	Tremont street, -	" Brewer, Lewis and Odin.
Winthrop, -	East street, - - -	" Parsons, Gordon and Howe.
Brimmer, - -	Common street, -	" Sargent, Lewis and Emerson.
Phillips,	Pinckney street, -	" Bartlett, Odin and Emerson.
Otis, - - -	Lancaster street, -	" Palmer, Neale and Dale.
New South, -		Under the charge of Sub-Committee of Franklin School.
Smith, - -	Belknap street,	Messrs. Lewis, Parker and Bartlett.

INSTRUCTERS IN THE VARIOUS SCHOOLS.

Note.—All Grammar and Writing Masters have a salary of $1,500 each, except the *Mather* School, $1,250; all Ushers in the Grammar and Writing Schools have a salary of $600 each; and all Assistants $250 each. [All the salaries are fixed by the School Committee.]

LATIN.

Epes S. Dixwell, *Master*. Salary $2,000.
Francis Gardner, *Sub-Master*. Salary $1,500.
George S. Parker, Salary $800, and Henry D. Wheelwright, Salary $700, *Ushers*.
Jonathan Snelling, *Teacher of Writing*. Salary $1,000.

ENGLISH HIGH.

Thomas Sherwin, *Master*. Salary $2,000.
Luther Robinson, *Sub-Master*. Salary $1,500.
Francis S. Williams and John D. Philbrick, *Ushers*.

LYMAN.

Albert Bowker, *Master.*
Aaron L. Ordway, *Usher.*
Mary Atherton and Eliza S. Pierce, *Assistants.*

ELIOT.

Charles B. Sherman, *Grammar Master.*
Levi Conant, *Writing Master.*
George Tower and Jacob H. Kent, *Ushers.*
Caroline W. Carter and Elizabeth Skinner, *Assistants.*

HANCOCK.

William J. Adams, *Grammar Master.*
Peter Macintosh, jr., *Writing Master.*
Adeline Howe, Henrietta L. Pierce, Catherine W. Snelling, Celia L. Gale, Sarah A. Dyke and Sarah E. White, *Assistants.*

ENDICOTT.

George Allen, jr., *Grammar Master.*
Loring Lothrop, *Writing Master.*
Robert W. Wright, *Usher.*
Mary A. Torrin, Angeline A. Brigham, Ann M. Wight and Malvina R. Brigham, *Assistants.*

MAYHEW.

William D. Swan, *Grammar Master.*
Aaron D. Capen, *Writing Master.*
Winslow Battles and Francis L. Capen, *Ushers.*
Mary J. Walker and Eliza L. West, *Assistants.*

BOWDOIN.

Abraham Andrews, *Grammar Master.*
James Robinson, *Writing Master.*
Mary A. Murdock, Rebecca Lincoln, Caroline E. Andrews, Harriet French, Mary S. Robinson, Sarah D. Adams and Mary E. Nash, *Assistants.*

BOYLSTON.

Thomas Baker, *Grammar Master.*
Charles Kimball, *Writing Master.*
Henry Seaver, *Usher.*
Margaret L. Emery, Clarinda R. F. Treadwell, Matilda Oliver, Susan I. M. Jones and Catharine H. Grover, *Assistants.*

ADAMS.

Samuel Barrett, *Grammar Master.*
Josiah Fairbank, *Writing Master.*
William H. Richards and Joel Brown, *Ushers.*
Mary S. Brigham, Mary E. Beck, *Assistants.*

FRANKLIN.

Barnum Field, *Grammar Master.*
Nathan Merrill, *Writing Master.*
Hannah S. Tirrell, Sarah Ann Gale, Catherine T. Simonds, C. H. W. Emmons and Maria E. Caverly, *Assistants.*

WELLS.

Cornelius Walker, *Grammar Master.*
Reuben Swan, jr., *Writing Master.*
William H. Swan and Robert Gordon, *Ushers.*
Matilda A. Gerry, Hannah J. Woodman, Caroline F. Housley and Ellen F. Hazletine, *Assistants.*

HAWES.

Frederick Crafts, *Grammar Master.*
John A. Harris, *Writing Master.*
Charles A. Morrill, *Usher.*
Julia M. Baxter, Mary E. Clark and Mary Ann Burnham, *Assistants.*

MATHER.

Josiah A. Stearns, *Grammar Master.*
Jonathan Battles, jr., *Writing Master.*
C. B. Metcalf, *Usher.*
Margaret A. Moody, Lucy Floyd, Rebecca A. Chipman and Ann J. Drake, *Assistants.*

JOHNSON.

Richard G. Parker, *Grammar Master.*
Joseph Hale, *Writing Master.*
Rebecca P. Barry, Martha E. Town, Emma J. Knapp, Mary H. Stodder, Helen E. Vans and Mary Jane Danforth, *Assistants.*

WINTHROP.

Henry Williams, jr., *Grammar Master.*
Samuel L. Gould, *Writing Master.*
Eliza L. Felt, Harriet D. Williams, E. W. Shelton, Olive E. Reynolds and Eliza F. Withington, *Assistants.*

BRIMMER.

Joshua Bates, jr., *Grammar Master.*
William A. Shepard, *Writing Master.*
Hosea W. Lincoln and Percival W. Bartlett, *Ushers.*
Abba F. Goodridge and Mary A. Collier, *Assistants.*

PHILLIPS.

Samuel S. Green, *Grammar Master.*
Samuel Swan, *Writing Master.*
Amphion Gates and John M. Colcord, *Ushers.*
Ellen M. Coolidge and Mary Nichols, *Assistants.*

OTIS.

Isaac F. Shepard, *Grammar Master.*
Benjamin Drew, jr., *Writing Master.*
S. W. I. Copeland, Harriet N. Decker, Emeline French and Mary S. Palmer, *Assistants.*

NEW SOUTH.

George B. Hyde, *Master.*
Martha A. Parker and Caroline A. Green, *Assistants.*

SMITH.

Abner Forbes, *Master.*
Chloe A. Lee and Susan Downes, *Assistants.*

SCHEDULE OF THE NUMBER OF PUPILS

In the several Grammar and Writing Schools, last of January, 1845.

NAMES.	BOYS.	GIRLS.	TOTAL.	Average Attendance.	MASTERS.	USHERS.	Female Teachers.	Female Teachers entitled to.
Lyman, - - - -	174	171	345	315	1	1	2	2
Eliot, - - - - -	473	000	473	427	2	2	2	2
Endicott, - - -	280	316	596	524	2	1	4	4
Hancock, - - -	000	541	541	427	2	0	6	6
Mayhew, - - -	360	000	360	303	2	2	2	2
Bowdoin, - - -	000	662	662	543	2	0	7	7
Boylston, - - -	256	261	517	411	2	1	5	5
Adams, - - - -	379	000	379	270	2	1	2	2
Franklin, - - -	000	380	380	284	2	0	5	5
Wells, - - - - -	232	308	540	431	2	2	4	4
Mather, - - - -	212	229	441	338	2	1	4	4
Hawes, - - - -	183	219	402	319	2	1	3	3
Johnson, - - -	000	547	547	514	2	0	6	6
Winthrop, - - -	217	305	522	385	2	0	5	5
Brimmer, - - -	557	000	557	429	2	2	2	2
Phillips, - - - -	241	000	241	235	2	2	2	2
Otis, new school,								
New South, - -	132	000	132	109	1	0	2	2
Smith,	104	63	167	99	1	0	2	2
	3800	4002	7802	6363				

ORGANIZATION OF THE PRIMARY SCHOOLS.

Committee, as appointed by School Committee, March, 1845.

JOSIAH F. BUMSTEAD, Chairman. ALVAN SIMONDS, Secretary.

STANDING COMMITTEE.

JOSEPH W. INGRAHAM, *Chairman*, 15 Spring st.
F. A. SUMNER, 30 School street.
J. F. BUMSTEAD, 113 Washington street.
R. W. BAYLEY, 14 Avon place.
WILLIAM P. JARVIS, 60 Pleasant street.
JOHN ODIN, Jr., 88 Tremont street.
JOHN WOART, 4 Snow hill street.
FREDERICK O. PRINCE, 23 Chambers street.
EBEN JONES, Oliver street.

ALVAN SIMONDS, *Secretary*, Broadway.
FRANCIS D. STEDMAN, 72 Pleasant street.
JOHN C. PARK, Somerset street.
WILLIAM T. PARKER, Broadway.
JOHN SPENCE, Jr., 2 Baldwin Place.
HENRY I. BOWDITCH, 3 Kingston street.
SAMUEL W. HALL, 79 Commercial street.
CHARLES BROOKS, 12 Bedford street.

COMMITTEE ON SCHOOL HOUSES.

JOSEPH W. INGRAHAM, *Ch'n*,
OLIVER DITSON, *Secretary*,
GUY C. HAYNES,
JOSEPH MORIARTY,
ELIJAH STEARNS,
ENOCH H. SNELLING,

FREDERICK CROSBY,
WILLIAM D. COOLIDGE,
DAVID KIMBALL,
RICHARD W. BAYLEY,
BENJ. P. RICHARDSON,
DANIEL T. COIT,

GEORGE W. BOND,
JOHN T. DINGLEY,
VOLNEY WILDER,
ALVAN SIMONDS,
WILLIAM T. PARKER.

COMMITTEE ON SCHOOL BOOKS.

WILLIAM D. TICKNOR,
AURELIUS D. PARKER,
HENRY G. CLARK,
JOHN WOART,
CHARLES BROOKS.

COMMITTEE OF CONFERENCE.

JOSIAH F. BUMSTEAD,
JOSEPH W. INGRAHAM,
ALVAN SIMONDS.

DISTRICT No. 1. (*East Boston.*)

GUY C. HAYNES, *Chairman.* WILLIAM H. CALROW, *Secretary.*

NO. AND INSTRUCTER OF SCHOOL.	LOCATION.	VISITING COMMITTEE.
1 Miss Sarah R. Pierce,	Central square,	George Sturtevant, Meridian street.
2 Sarah Ann Pray,	Lyman Schoolhouse,	Joseph Robbins, Maverick street.
3 Elizabeth Lincoln,	Belmont square,	Guy C. Haynes, Webster street.
4 Almena C. Cheever,	Engine house,	William H. Calrow, Bennington st.
*5 Mrs. Lucy C. Osborn,	Lyman Schoolhouse,	John Atkins, Meridian street.
6 Miss Mary M. Griffin,	Belmont square,	Amos A. Phelps, Webster street.

DISTRICT No. 2.

JOSEPH W. INGRAHAM, *Chairman.* EPHRAIM BUCK, Jr., *Secretary.*

NO. AND INSTRUCTER OF SCHOOL.	LOCATION.	VISITING COMMITTEE.
1 Miss Catharine V. H. Oakes	Tileston street,	Bradley N. Cumings, 126 Salem street.
2 Mary S. Gale,	Snowhill street,	Amos Smith, 96 Salem street.
3 Mary Ann Blake,	Snowhill street,	Joseph W. Ingraham, 15 Spring street.
*4 Hannah E. Coolidge,	Moon street,	Henry G Clark, 184 Hanover street.
5 Susan Page,	Moon street, corner Fleet,	John Woart, 4 Snowhill street.
6 Sophronia Abbot,	Eliot Schoolhouse,	Ephraim Buck, jr., 171 Hanover street.
7 Martha F. Boody,	Sun-court street,	John H. Blake, 20 North Bennet street.
8 Martha Ann Dudley,	Short street, corner Tileston,	William Harris, 22 North Bennet street.

NO.	AND INSTRUCTER OF SCHOOL.	LOCATION.	VISITING COMMITTEE.
	DISTRICT No. 3.		
	JOSEPH MORIARTY, *Chairman.*		ROWLAND ELLIS, *Secretary.*
1	Miss Louisa B. Clark,	Christ Church Vestry,	S. P. Oliver, 96 Salem street.
2	Eliza T. Hook,	Rear of 22 Charter street,	Rowland Ellis, 86 Hanover street.
3	Mary S. Stoddard,	Hanover Avenue,	William H. Learnard, 12 Snowhill st.
4	Harriet S. Keith,	Rear of 22 Charter street,	J. Moriarty, 31 Salem street.
5	Henrietta M. Judkins,	Hanover Avenue,	T. Restieaux, Hanover, corner Cross st.
6	Mary A. Cushing,	Rear of 22 Charter street,	John P. Ober, 22 Charter street.
*7	Harriet W. Barker,	Hanover Avenue,	
	DISTRICT No. 4.		
	ELIJAH STEARNS, *Chairman.*		JOHN SPENCE, Jr., *Secretary.*
1	Miss Nancy B. Seaver,	N. Margin, opposite Baptist Meeting H.	Charles E. Wiggin, 70 Prince street.
2	Rebecca Rogers,	N. Margin, opposite Baptist Meeting H.	Elijah Stearns, Salem, corner Prince st.
3	Charlotte Seaman,	Bennet Avenue,	John B. McCleary, 82 Prince street.
4	Aphia Turner,	Bennet Avenue,	John Spence, jr., 2 Baldwin place.
5	Eliza Ann Tirrell,	Vestry First Universalist Church,	Henry D. Fowle, 33 Prince street.
	DISTRICT No. 5.		
	ENOCH H. SNELLING, *Chairman.*		JOSEPH W. MERRILL, *Secretary.*
1	Miss Catharine W. Callender,	Parkman place,	E. G. D. Palmer, 52 Hanover street.
2	Margaret W. Hall,	Parkman place,	George W. Parmenter, 180 Hanover st.
3	Mary E. Parker,	Hancock Schoolhouse,	E. H. Snelling, 108 Salem street.
4	Anna M. Snelling	Hancock Schoolhouse,	Charles G. Emmons, 77 Ann street.
*5	Harriet M Warren,	Vestry Richmond street church,	Charles H. Dodge, 145 Hanover street.
6	Frances E. Wilkins,	Richmond street,	Joseph W. Merrill, 59 Salem street.

DISTRICT No. 6.

A. G. WYMAN, *Chairman.* S. G. SIMPKINS, *Secretary.*

1	Mrs. Sarah N. Swan,	Otis Schoolhouse,	William E. Coale, Cambridge street.
2	Miss Catharine Sawyer,	Otis Schoolhouse,	Loammi Crosby, 37 Leverett street.
3	Anne A. James,	Court House, Leverett street,	Abraham G. Wyman, Green street.
4	Charlotte F. Belcher,	Spring street place,	Frederick Crosby, 42 Leverett street.
5	Margaret K. Townsend,	Spring street place,	John White, jr., Leverett street.
6	Mrs. Elizabeth S. Grater,	4 Milton street,	Samuel G. Simpkins, 21 Tremont row.
7	Miss Elizabeth S. Foster,	4 Milton street,	Dorus Clarke, 6 Cambridge street.
*8	Sophia C. Eaton,	Court House, Leverett street,	John C. Park, Somerset street.

DISTRICT No. 7.

F. A. SUMNER, *Chairman.* THEODORE H. BELL, *Secretary.*

1	Miss Mary A Howe,	Friend street,	Theodore H. Bell, 155 Washington street.
2	Catharine A. Jones,	Friend street,	David W. Horton, 1 Chardon street.
*3	Sophia White,	Friend street,	Francis Brown, 46 Leverett street.
4	Lucy A. Clark,	Chardon street, Baptist Vestry,	Frederick A. Sumner, 30 School street.
5	Bethia Whiting,	Chardon street, Baptist Vestry,	Thomas B. Hawkes, 128 Court street.
6	Mrs. Harriet Whipple,	South Margin street,	Nathaniel P. Kemp, 165 Washington st.
7	Miss Sarah P. Hutchinson,	Merrimac street,	William D. Coolidge, 42 Allen street.

DISTRICT No. 8.

DANIEL HENCHMAN, *Chairman.* FREDERICK O. PRINCE, *Secretary.*

1	Miss Elizabeth Ford,	Blossom street,	Daniel Henchman, 41 Cambridge street.
2	Sarah A. Cushing,	Blossom street,	Frederick O. Prince, 23 Chambers street.
3	Adaline R. Hapgood,	Blossom street,	Charles Boardman, 50 Court street.
4	Mary S. Watts,	Wells Schoolhouse,	David Kimball, 28 Washington street.
5	Maria Jenkins,	Smith Schoolhouse, Belknap street,	James Tolman, 6 Congress square.
6	Mary E. Doak,	Bowdoin Schoolhouse,	E. Augustus Hobart, 68 Leverett street.

NO. AND INSTRUCTER OF SCHOOLS.	LOCATION.	VISITING COMMITTEE.

DISTRICT No. 9.

RICHARD W. BAYLEY, *Chairman.* NEWELL A. THOMPSON, *Secretary.*

NO. AND INSTRUCTER OF SCHOOLS.	LOCATION.	VISITING COMMITTEE.
1 Miss Sarah C. Moore,	Phillips Schoolhouse,	Aurelius D. Parker, 20 Court street.
2 Martha West,	May street,	Richard W. Bayley, 14 Avon place.
3 Lydia Johnson,	May street,	Eliphalet P. Hartshorn, 24 Blossom street.
4 Eliza Ann Hartshorn,	West Cedar street,	John P. Putnam, 19 Court street.
5 Diedamia Chase,	West Cedar street,	Newell A. Thompson, 16 West Cedar st.
*6 Matilda Turner,	West Cedar street,	Francis J. Humphrey, 1 Myrtle street.
7 Clarissa E. Thornton,	Phillips Schoolhouse,	Samuel L. Abbot, 72 Mount Vernon st.

DISTRICT No. 10.

EBEN JONES, *Chairman.* WILLIAM HOWE, *Secretary.*

NO. AND INSTRUCTER OF SCHOOLS.	LOCATION.	VISITING COMMITTEE.
1 Miss Adeline Lincoln,	Fort Hill,	Lorenzo S. Cragin, 6 High street.
2 Ruth E. Weed,	Gibbs's lane,	Eben Jones, Oliver street.
3 Mrs. Martha W. Cook,	Fort Hill,	William Howe, 11 Chambers street.
4 Miss Lydia Emmons,	Fort Hill,	Benjamin P. Richardson, 60 High street.
5 Sarah M. Messer,	Rear 87 High street,	Charles A. Phelps, 23 Oliver street.
*6 Mrs. Charlotte A. Curtis,	Rear 87 High street,	Frederick H. Stimpson, 59 Atkinson st.
7 Miss Helen I. Hopkins,	Rear 87 High street,	

DISTRICT No. 11.

T. R. MARVIN, *Chairman.* CHARLES STIMPSON, *Secretary.*

NO. AND INSTRUCTER OF SCHOOLS.	LOCATION.	VISITING COMMITTEE.
1 Miss Angelia M. Newmarch,	Vestry of Purchase street Church,	Charles Brooks, 12 Bedford street.
2 Rebecca R. Thayer,	Franklin street,	Oliver Ditson, 39 Poplar street.
3 Mrs. Rachel Read,	Purchase place,	Charles Stimpson, 106 Washington street.
4 Miss Annah S. Everett,	Rear 82 Federal street,	Josiah F. Bumstead, 113 Washington st.
5 Abigail W. Wilder,	Odeon place,	Wm. D. Ticknor, 135 Washington street.
6 Lucy H. Greene,	Harvard place,	T. R. Marvin, 24 Congress street.

DISTRICT No. 12.

DANIEL T. COIT, *Chairman.* JAMES B. DOW, *Secretary.*

1	Miss Caroline A. Morris,	Winthrop Schoolhouse,	James B. Dow, 141 Washington street.
2	Mary J. Parker,	Essex place,	Charles C. Barry, 5 Cherry street.
3	Harriet A. Parker,	South street court,	Daniel T. Coit, 12 High street,
4	Eliza Ann Parker,	South street court,	William B. Upham, 77 Summer street.
5	Mary Williams,	Essex place,	Elisha Field, 3 East street.
*6	Mrs. Ann Juliet Loring,	Essex place,	Francis D. Stedman, 72 Pleasant street.
7	Miss Elizabeth C. Frink,	South street court,	N. Metcalf, jr., 24 Franklin street.
8	Sarah E. Tead,	Winthrop Schoolhouse,	E. F. Messenger, 395 Washington street.
9	Laurancy H. Dexter,	Kingston, corner Essex street,	Asaph B. Child, 1 Albany street.

DISTRICT No. 13.

HENRY I. BOWDITCH, *Chairman.* HENRY S. WASHBURN, *Secretary.*

1	Miss Mary F. Rogers,	Court in Mason street,	Henry I. Bowditch, 3 Kingston street.
2	Julia A. Davis,	Harvard street church,	George W. Bond, 34 Kneeland street.
3	Louisa A. Sargent,	Newbern place,	Henry S. Washburn, 146 Pleasant street.
4	Mary Swett,	Johnson Schoolhouse,	Henry Burroughs, 3 Hollis street.
5	Anna M. Brown,	Court in Mason street,	George Rogers, 6 Garland street.
6	Ann E. Watson,	Newbern place,	Charles McBurney, 25 Tremont row.
*7	Hannah E. Moore,	Johnson Schoolhouse,	John Odin, jr., 88 Tremont street.
8	Sarah R. Bowles,	Harvard street church,	Greenleaf C. Sanborn, 146 Pleasant street.

DISTRICT No. 14.

JOHN T. DINGLEY, *Chairman.* HORACE DUPEE, *Secretary.*

1	Miss H. A. T. Stodder,	Universalist Vestry, Warren street,	Horace A. Breed, 75 Carver street.
2	C. M. E. Richardson,	Newbern place,	John T. Dingley, 17 Fayette street.
3	Julia A. Fletcher,	Rear of Hollis street church,	A. A. Watson, Harrison Avenue.
4	Abby W. Baker,	Rear of Hollis street church,	Horace Dupee, 8 Lagrange place.
*5	Maria M. Dingley,	Universalist Vestry, Warren street,	Thacher Beal, 249 Tremont street.

NO. AND INSTRUCTERS IN SCHOOLS.		LOCATION.	VISITING COMMITTEES.
DISTRICT No. 15.			
EDMUND JACKSON, *Chairman.*			WILLIAM DALL, *Secretary.*
1	Miss Maria Pratt,	Castle street,	James W. Harris, 680 Washington street.
2	Caroline A. Miller,	Dover street,	William Dall, 668 Washington street.
3	Mrs. Elizabeth F. Coffin,	644 Washington street,	Oliver Carter, 4 Garland steeet.
*4	Miss Ellen H. Frothingham,	On the Neck,	Henry R. Andrews, 3 Brookline street.
5	Elizabeth W. Keith,	Dedham street,	Volney Wilder, Malden street.
6	Elizabeth Newman,	Northampton street,	Stephen Tucker, 805 Washington street.
7	Emily M. Frothingham,	Corner Suffolk and Canton streets,	Edmund Jackson, 773 Washington st.
DISTRICT No. 16.			
ALVAN SIMONDS, *Chairman.*			ALBERT J. WRIGHT, *Secretary.*
1	Miss Lucretia S. Day,	West Broadway,	Alvan Simonds, Broadway.
2	Elizabeth Mann,	West Broadway,	Hugh Montgomery, Turnpike street.
3	Mary Lincoln,	Phillips church vestry,	Cranston Howe, Broadway.
4	Emily Baxter,	Mather Schoolhouse,	Albert J. Wright, 14 Williams street.
*5	Mary P. Putnam,	Mather Schoolhouse,	Charles J. F. Allen, Broadway.
6	Harriet M. Lawrence,	Fourth street, near C street,	Choate Burnham, Broadway.
7	Almira Downes,	Broadway, near B street,	Solon Jenkins, Turnpike street.
DISTRICT No. 17.			
WILLIAM T. PARKER, *Chairman.*			WILLIAMS B. BROOKS, *Secretary.*
1	Miss Susan C. Fernald,	Under Hawes place church,	Obadiah Rich, Lower Village
2	Sarah H.Emerson,	Rear Hawes Schoolhouse,	Henry Homer, Fourth street.
3	Rachel C. Rich,	Rear Hawes Schoolhouse,	W. T. Parker, Broadway.
4	Ann Floyd,	Vestry of St. Matthew's church,	Williams B. Brooks, Third street.
5	Joanna W. Davis,	Wright's court,	Ambrose Lovis, D street.
6	Eliza S. Johnston,	Under South Baptist church,	Henry Safford, Fourth street.
*7	Elizabeth M. Morrill,	Rear of Engine house,	William W. Patton, Fourth street

DISTRICT No. 18.

FRANCIS BULLARD, *Chairman.* WILLIAM W. DAVENPORT, *Secretary.*

1	Miss Catherine G. Pratt,	Castle street,	Henry Davenport, 21 Orange street.
2	Caroline A. Jacobs,	Washington street, cor. Pleasant street,	W. W. Davenport, 21 Orange street.
3	Mary A. M. Goodridge,	Vestry Warren street Chapel,	William P. Jarvis, 60 Pleasant street.
*4	Priscilla S. Taft,	Brimmer Schoolhouse,	Otis A. Skinner, 20 Marion street.
5	Elizabeth Goodridge,	Brimmer Schoolhouse,	Francis Bullard, 2 Oak place.

MILL DAM.

Miss Hannah H. Hadley, - - - - - - - - *Standing Committee.*

*** These are Intermediate schools. Salaries of Instructresses, $250 each.**

WARD OFFICERS.

Ward No. 1.

Warden.
E. H. Little.

Clerk,
William Palfrey.

Inspectors.
Thomas P. Pulsifer,
Robert Ripley,
Charles F. Wells,
Lewis M. Burckes,
Thomas T. Hayden.

Ward No. 2.

Warden.
Ezra Vinal,

Clerk.
William Wildes.

Inspectors.
Benjamin Gowan,
Benjamin Brown,
John T. Thompson,
Charles Ellis,
William D. Miller.

Ward No. 3.

Warden,
William Bellamy.

Clerk,
Moses A. Herrick.

Inspectors.
William P. Hayley,
Solomon Carter,
John M. Oxton,
Joseph H. Locke,
Samuel F. McCleary, jr.

Ward No. 4.

Warden,
Reuben Reed.

Clerk,
J. E. Reed.

Inspectors.
Peter Butler, jr.
D. E. Jewett,
F. L. Richardson,
Henry P. Oxnard,
Richard Soule, jr.

Ward No. 5.

Warden,
Michael Roulstone.

Clerk.
John T. Ellis.

Inspectors,
Loammi Crosby,
Thomas D. Hatch,
David Austin,
William Easterbrook,
Thomas Patten, jr.

Ward No. 6.

Warden,
Ezra Lincoln.

Clerk,
Charles H. Parker.

Inspectors,
Charles H. Little,
E. W. Pike,
John Reed,
T. C. A. Linzee,
Jarvis Braman.

Ward No. 7.

Warden,
John Gardner,

Clerk,
James Lawrence.

Inspectors,
Alfred T. Turner,
John R. Brewer,
Samuel E. Guild,
James P. Bush,
J. O. Williams.

Ward No. 8.

Warden,
Samuel Topliff,

Clerk,
Samuel H. Beal.

Inspectors,
T. P. Kendall,
Daniel B. Badger,
W. A. Harrington,
Francis Gardiner,
Samuel W. Lane.

Ward No. 9.

Warden,
Jedediah Tuttle.

Clerk,
Stephen Tilton, jr.

Inspectors,
Frederick Whitney,
S. S. Ridgway,
David Chamberlain,
J. W. Merriam,
Allen Shepard.

Ward No. 10.

Warden,
Samuel Pettes.

Clerk,
Abner E. Fisher.

Inspectors,
Edward J. Long,
J. F. W. Lane,
R. W. Hall,
John Salmon, jr.
George F. Williams.

Ward No. 11.

Warden,
Joel Wheeler.

Clerk,
Gideon Beck.

Inspectors,
G. O. Frothingham,
John Comerais,
John Farrington,
J. F. Whitney,
James Standish.

Ward No. 12.

Warden,
William Eaton.

Clerk,
George N. Noyes.

Inspectors,
Charles E. Paige,
John P. Robinson,
George Emerson,
Silas D. Bryant,
J. S. Burton.

WARDS,

As divided and established by an Ordinance of the City, passed September 20, 1838.

No. 1.—Beginning at Winnisimet Ferry, thence on the west side of Hanover st. to Richmond st.; thence on the north side of Richmond st., crossing Salem st., to Cooper st.; on north side of Cooper st., crossing Charlestown st. to Beverly st.; thence on the easterly side of Beverly st. to the water.

No. 2.—Beginning at Winnisimet Ferry, thence on the easterly side of Hanover st. to Union st; thence on the east side of Union st. to Dock square; thence on the north side of North Market st. to the water on the north side of the City wharf.

No. 3.—Beginning at the water, thence on the westerly side of Beverly st. to Charlestown st.; thence on the southerly side of Cooper st. and Richmond st. to Hanover st.; thence on the north-westerly side of Hanover st. to Union st.; thence on the westerly side of Union st. to Elm st.; thence on the northerly side of Elm st. to Hanover st.; thence across Hanover st. to Portland st.; thence on the easterly side of Portland st. to Sudbury st.; thence on the north-westerly side of Sudbury st. to Hawkins st.; thence on the north-easterly side of Hawkins st. to Chardon st.; thence on the north-westerly side of Chardon st. to Green st.; thence on the north-easterly side of Green st. to Lyman place; thence on the east and north sides of Lyman place to Prospect st.; thence on the eastern side of Prospect st. to Causeway st.; thence on the north-easterly side of Lowell st. to the water.

No 4.—Beginning at the north-easterly corner of City wharf; thence on the northerly side of City wharf to North Market st.; thence on the southerly side of North Market st., across Dock square, to Elm st.; thence on the southerly side of Elm st. to Hanover st., crossing Hanover st. to Portland st.; thence on the south-westerly side of Portland st. to Sudbury st.; thence on the south-easterly side of Sudbury st. to Hawkins st.; thence on the south-westerly side of Hawkins st. to Chardon st.; thence on the south-easterly side of Chardon st. to Bowdoin square; thence on the south-westerly side of Green st. to Staniford st.; thence on the easterly side of Staniford st. to Cambridge st.; thence on the southerly side of Cambridge st. to Belknap st.; thence on the easterly side of Belknap st. to Mount Vernon st.; thence on the northerly and easterly sides of Mount Vernon st. to Beacon st.; thence on the northerly side of Beacon st. to Tremont st.; thence on the north-westerly side of Tremont st. to Court st.; thence on the northerly side of Court st. and State st. to Long wharf; thence on the southerly side of said wharf to the end thereof, including East Boston and all the islands in the harbor.

No. 5.—Beginning at the easterly end of Cambridge bridge, thence on the northerly side of Cambridge st. to Staniford st.; thence on the westerly side of Staniford st. to Green st., crossing Green st. to Lyman place; thence on the westerly side of Lyman place to Prospect st.; thence on the westerly side of Prospect st., crossing Causeway st. to Lowell st.; thence on the south-westerly side of Lowell st. to the water.

No. 6.—Beginning at the easterly end of Cambridge bridge, thence on the southerly side of Cambridge st. to Belknap st.; thence on the westerly side of Belknap st. to Beacon st.; thence on the northerly side of Beacon st. to the boundary line between Boston and Roxbury, on the western avenue.

No. 7.—Beginning at the corner of Beacon st. and Belknap st., thence on the easterly side of Belknap st. to Mount Vernon st.; thence on the southerly side of Mount Vernon st. to Beacon st.; thence on the southerly side of Beacon st. to Tremont st.; thence on the south-easterly side of Tremont st. to Court st.; thence on the southerly side of Court st., crossing Washington st., to State st.; thence on the southerly side of State st. to Congress st.; thence on the westerly side of Congress st. to Milk st.; thence on the northerly side of Milk st. to Federal st.; thence on the westerly side of Federal st. to Franklin place; thence on the northerly side of Franklin place to Hawley st.; thence on the westerly side of Hawley st. to Summer st.; thence on the southerly side of Summer st. to Chauncy place; thence on the westerly side of Chauncy place and Bedford place, crossing Bedford st., on the westerly side of Rowe st., to Essex st.; thence on the northerly side of Essex st. to Washington st.; thence on the westerly side of Washington st. to Boylston st.; thence on the northerly side of Boylston st. to Tremont st.; thence on the easterly side of Tremont st. to Park st.; thence on the north-easterly side of Park st. to Beacon st.; thence on the northerly side of Beacon st. to the corner of Belknap st.

No. 8.—Beginning at the water on the southerly side of Long wharf, thence on the southerly side of State st. to Congress st.; thence on the easterly side of Congress st. to Milk st.; thence on the southerly side of Milk st. to Federal st.; thence on the easterly side of Federal st. to Berry st.; thence on the northerly side of Berry st. to Atkinson st.; thence on the north-easterly side of Atkinson st., crossing Purchase st. and Broad st., to the water on the southerly side of Russia wharf.

No. 9.—Beginning at the water on the southerly side of Hobbs's wharf, thence crossing Sea st. to Beach st.; thence on the northerly side of Beach st. to Washington st.; thence on the easterly side of Washington st. to Essex st.; thence on the southerly side of Essex st. to Rowe st.; thence on the easterly side of Rowe st., crossing Bedford st., on the easterly side of Bedford place and Chauncy place, to Summer st.; thence on the northerly side of Summer st. to Hawley st.; thence on the easterly side of Hawley st. to Franklin place; thence on the southerly side of Franklin place to Federal st.; thence crossing Federal st. to Berry st.; thence on the southerly side of Berry st. to Atkinson st.; thence on the south-westerly side of Atkinson st., crossing Purchase st. and Broad st., to the water on the southerly side of Russia wharf.

No. 10.—Beginning at the water on the southerly side of Hobbs's wharf, thence crossing Sea st. to Beach st; thence on the southerly side of Beach st. to Washington st.; thence on the westerly side of Washington st. to Boylston st.; thence on the southerly side of Boylston st. to Pleasant st.; thence on the easterly side of Pleasant st. to Eliot st.; thence on the northerly side of Eliot st. to Carver st.; thence on the easterly side of Carver st. to Pleasant st.; thence on the north-easterly side of Pleasant st. to Washington st.; thence crossing Washington st. to Indiana st.; thence on the northerly side of Indiana st. to Harrison avenue; thence on the easterly side of Harrison avenue, to a new street crossing the South Cove; thence on the northerly side of said street, to the water on the southerly side of Guild and Cowdin's wharf.

No. 11.—Beginning at the corner of Boylston st. and Pleasant st., thence on the westerly side of Pleasant st. to Eliot st.; thence on the southerly side of Eliot st. to Carver st.; thence on the westerly side of Carver st. to Pleasant st.; thence on the south-westerly side of Pleasant st. to Washington st.; thence crossing Washington st. to Indiana st.; thence on the southerly side of Indiana st., to Harrison avenue; thence on the westerly side of Harrison avenue, to a new street crossing the South Cove; thence on the southerly side of said street, to the water on the southerly side of Guild & Cowdin's wharf—all south and west of the above described line, to Roxbury.

No. 12.—All South Boston.

CENSUS OF BOSTON,

AT VARIOUS PERIODS,

And the several Apportionments of the Inhabitants by Wards.

	Third U. States Census, 1810.	Fourth U. States Census, 1820.	*New division of Wards by Census, 1820.	City Census, 1825.	Fifth U. States Census, 1830.	City Census, 1835.	State Census, 1837.	†New division of Wards, by Census, 1837.	State Census, 1840.	Sixth U. States Census, 1840.
Ward No. 1	2791	3204	3558	3890	4149	5075	5530	6830	6870	7512
“ “ 2	2590	2951	3800	5006	4277	5063	5409	6775	6817	15282
“ “ 0	2480	3189	3545	4813	4906	5279	6068	6820	7012	7[illegible]45
“ “ 4	1816	2028	2980	4722	5149	6497	6040	5394	5247	7389
East Boston, (formerly Noddle's Island)	18	762	762	288		607	959	959	1455	
Other Islands, &c.	460					355	704	704	678	
Ward No. 5	2254	2803	3652	5074	6138	6675	6959	6959	6804	6879
“ “ 6	4414	5853	3638	4235	4503	5780	6048	6638	7585	7[illegible]83
“ “ 7	2513	3213	3787	5732	5760	6913	6576	6823	6727	6482
“ “ 8 (formerly 9.)	2811	4304	3520	4819	4529	6762	6364	6812	7946	6702
Ward No. 9 (formerly 8.)	1697	2160	3588	4727	5072	5887	5499	6656	6839	6742
Ward No. 10	2013	2318	3621	5082	4937	5843	5963	6672	6827	8136
“ “ 11	3989	5076	3424	4009	4227	5361	5077	6695	7326	7450
“ “ 12	3528	5357	3419	3894	4908	6910	7541			
South Boston, (formerly north part of Dorchester; annexed to Boston, March 6, 1804.	354			1986	2837	‡5596	‖5588	5588	§5845	6176
	33,728	43,298	43,298	58,277	61,392	78,603	80,325	80,325	83,979	93,383

First Division of Wards, March 9, 1735.

Second Division of Wards, February 1, 1806.

* Third Division of Wards, March 13, 1822.

† Fourth Division of Wards, December 10, 1838.

‡ Including 776 inmates of the Houses of Industry, Correction, and Reformation.

‖ Excluding 498 Paupers and the Inmates of the House of Correction.

§ Excluding 348 State Paupers.

Snow's History of Boston, relates, "the following account was taken" of Boston "in the spring of 1722."

" Number of Inhabitants above the Mill Creek, - - - - - - - -	6018
" Number of Inhabitants at North End, - - - - - - - - - -	4549
	10,567"

REAL AND PERSONAL ESTATE.

The following table shews the value of the Real and Personal Estate, with the number of persons assessed from the year 1794 and every subsequent fifth year to 1844.

Year.	Real Estate.	Personal Estate.	Aggregate.	No. Bills.
	£ *s. d.*	£ *s. d.*	£ *s. d.*	
1794	602,312 10 0	824,812 10 0	1,427,125 0 0	2953
	DOLLARS.	DOLLARS.	DOLLARS.	
1799	3,224,100	3,766,200	6,990,300	3600
1804	13,753,000	15,328,300	29,081,300	5230
1809	19,712,000	16,617,200	36,329,200	6772
1814	17,871,400	15,164,800	33,037,200	6617
1819	22,795,800	16,583,400	39,379,200	7851
1824	27,303,800	22,540,000	49,807,800	10980
1829	36,963,800	24,104,200	61,068,000	13311
1834	43,140,600	31,665,200	74,805,800	15652
1839	58,577,800	33,248,600	91,826,400	18151
1844	72,048,000	46,402,300	118,450,300	24817

AN ABSTRACT

OF THE

Annual Bills of Mortality of the City of Boston,

FOR TWENTY-FIVE YEARS,

FROM 1820 TO 1845,

With the ages and sex; together with the diseases, casualties, and other causes of Death, according to the records of the Health Department, kept during that period, by Samuel H. Hewes, Esq., the present Superintendent of Burials.

	YEAR.	DEATHS.
Total died in	1820	1102
" "	1821	1424
" "	1822	1204
" "	1823	1154
" "	1824	1297
" "	1825	1450
" "	1826	1254
" "	1827	1021
" "	1828	1233
" "	1829	1221
" "	1830	1126
" "	1831	1424
" "	1832	1763
" "	1833	1476
" "	1834	1559
" "	1835	1914
" "	1836	1770
" "	1837	1843
" "	1838	1914
" "	1839	1864
" "	1840	1972
" "	1841	1919
" "	1842	2435
" "	1843	2201
" "	1844	2241
		39,781

AGES.	MALES.	FEMALES.	TOTAL
100 to 110	2	4	6
90 " 100	32	80	112
80 " 90	255	409	664
70 " 80	540	775	1315
60 " 70	753	876	1629
50 " 60	1151	974	2125
40 " 50	1771	1297	3068
30 " 40	2236	1939	4175
20 " 30	2090	2448	4538
10 " 20	734	1106	1840
5 " 10	814	673	1487
2 " 5	1941	1684	3625
1 " 2	2134	2278	4412
Under 1 yr.	3944	3114	7058
Unknown,	521	447	968
			37,022
Stillborn,			2,759
			39,781

Abscess,	93
" on brain,	5
" on lung,	1
" lumbar,	6
" in liver,	1
" in pleura,	1
" psoas,	1
Aneurism,	4
" of aorta,	2
Angina Pectoris,	4
Asthma,	46
Amenorrhœa,	1
Amputation,	1
Apoplexy,	383
Atrophy,	10
Bilious Colic,	31
Bladder, inflammation of, or cystisis,	11
Bloody flux,	2
Bowel complaint,	299
" inflammation of (enteritis)	718
Bleeding, or hœmorrhage	57
" of bowels,	1
" at lungs,	29
" at stomach,	2
" of uterus,	2
Brain, organic disease of,	1
" disease of,	175
" effusion on,	2
" inflammation of, (phrenitis)	190
Brain, tumor on the,	2
Bones, disease of the,	1
Blood vessel, rupture of,	32
Bronchitis,	23
Burns,	203
Casualties and wounds,	432
Cancer or carcinoma,	207
Catarrh,	9
Cachexy,	25
Carbuncle,	3
Cholera morbus,	173
" infantum,	569
" malignant,	78
Chlorosis,	1
	3,837

	3,837
Canker	246
Canker rash,	25
" in bowels,	23
Chest, inflammation of,	1
" disease of,	4
Child-bed,	395
Colic,	32
Consumption, or phthisis,	5,689
Convulsions,	709
Croup, Hives, or Cynanche Trachealis,	901
Complication of diseases,	2
Chicken-pox,	12
Coxalgia,	2
Cramp,	6
Debility,	336
Decay of nature,	5
Decline,	45
Diabetes,	11
Diaphragmatitis,	1
Diarrhœa,	151
" chronic,	9
Drinking cold water,	19
Dropsy, ascites or anasarca,	724
Dropsy in abdomen,	4
" in brain or hydrocephalus,	977
Dropsy, in chest or hydrothorax,	126
Dropsy of heart,	19
" of head,	159
" of ovarum,	1
Dyspepsy,	45
Dysentery,	878
Drowned,	474
Epilepsy,	31
Erysipelas,	172
Executed,	16
Feebleness at birth,	6
Fever,	127
" brain,	227
	16,447

	16,447
Fever bilious,	141
“ childbed or puerperal,	72
“ gastric,	9
“ inflammatory,	116
“ intermittent,	22
“ hectic,	3
“ malignant,	2
“ nervous,	43
“ lung or pulmonic,	1639
“ pneumonia,	26
“ putrid,	8
“ pleurisy,	27
“ rheumatic,	61
“ scarlet or scarlatina,	1384
“ slow,	8
“ spotted,	3
“ synocha,	12
“ typhus,	1149
“ worm or worms,	99
“ yellow,	3
Fistula,	4
Fits,	133
Fractures,	15
Frozen,	6
Fungus,	2
Gall bladder, rupture of,	1
Glands, disease of the,	4
Gout or arthritis,	18
Gravel,	29
Haematuria,	1
Head disorders,	7
Heart, diseases of,	373
“ inflammation of (carditis)	12
Hooping-cough, or pertussis,	672
Hepatico gastritis,	1
Hernia,	12
“ strangulated,	5
Heat,	3
Hip joint, complaint,	34
	22,606

	22,606
Insanity,	63
Infantile diseases,	2,564
Influenza,	112
Inflammation,	154
“ chronic,	7
Intemperance, Intoxication, and Delirium Tremens,	846
Inanition,	1
Introsusception,	4
Intestine, ulcerated stricture of,	1
Jaundice or Icterus,	73
Knee, disease of,	1
Kidneys, disease of,	17
Lightning,	1
Lungs, disease of,	1
“ tumor on the,	1
“ inflammation of, (pneumonia)	596
Lethargy,	7
Leprosy,	3
Lockjaw or Tetanus,	19
Larynx, inflammation of,	8
Liver, inflammation of, or hepatitis,	32
Liver, diseases of,	221
“ scirrhus,	11
Marasmus,	337
Mesenteric gland, disease of,	5
Mesenteric gland, schirrhus,	1
Malformation,	1
Measles or rubeola,	856
Mortification, sphacelus, or gangrene,	170
Murdered,	16
Neuralgia,	5
Nervous affection,	3
Obstipation,	3
	28,746

	28,746
Old age,	1,365
Ovarium, disease of,	1
Ossification,	1
Pleurisy, pleuritis, or inflammation of pleura,	154
Paralysis,	52
Palpitation,	2
Paralytic affection,	6
Palsy,	276
Pericardium, inflammation of,	5
Peritonitis, chronic,	3
Piles,	3
Poison,	28
" by paint,	1
Peritoneum, inflammation of,	1
Purpura haemorrhagica,	2
Prelapsus uteri,	1
Quincy or cynanche, tonsillaris,	98
Rickets,	7
Ringworm,	3
Rupture,	8
Rheumatism,	52
Rash,	2
Scalds,	40
Scrofula,	158
Scurvy,	8
Scapula, disease of,	1
Syphilis or venereal,	43
Stomach, inflammation of,	46
	31,113

	31,113
Stomach, disease of,	18
" scirrhus,	2
Scirrhus,	18
Sciatica,	1
Salt Rheum,	3
Spine disease,	51
" distorted,	1
" enlarged,	1
Spina bifida,	1
Strangulation,	3
Strangury,	2
Skin disease,	1
Spasms,	176
Spleen,	3
Sunstruck,	1
Suicide,	191
Stone or calculus,	4
Stillborn,	2,589
Stricture,	1
" of Esophagus,	1
Sudden,	208
Suffocation,	20
Small Pox or variola,	370
Teething or dentition,	526
Throat Distemper, or cynanche maligne,	263
Thrush or apatha,	40
Tumors	89
Tic Doloreux,	3
Ulcers,	45
Urethra, stricture of,	3
Uterus, disease of,	9
" rupture of,	1
Unknown,	4,006
White swelling,	17
	39,781

CATALOGUE

OF THE

GOVERNMENT

OF THE

CITY OF BOSTON,

IN CHRONOLOGICAL ORDER OF THEIR SERVICE,

FROM ITS INSTITUTION, MAY 1, 1822, TO APRIL 1, 1845,

WITH AN

INDEX.

PRELIMINARY REMARKS.

During twenty-three municipal years, one being but eight months, when the time of the City election was changed in 1825, eighty-nine citizens have served as Aldermen, fifteen have deceased, two while in office. Five hundred and seventy-three members of the Common Council have been qualified.

Ward	No.	1,	53 Members,	Ward	No.	8,	44 Members,
“	“	2,	49 “	“	“	9,	35 “
“	“	3,	46 “	“	“	10,	49 “
“	“	4,	44 “	“	“	11,	54 “
“	“	5,	50 “	“	“	12,	64 “
“	“	6,	43 “				
“	“	7,	46 “				577

Thirty-nine citizens have represented two wards. About a third of these cases were occasioned by the altered division of the wards in 1838. One citizen has represented three wards. Showing that five hundred and sixty-nine citizens have served in the Common Council, eighty-two of whom have deceased, five while in office.

NOTE.

The asterisk denotes the deceased.

The Junior of Theodore Lyman, omitted 1839. See Mayors.

ALDERMEN.

Nathaniel P. Russell, Daniel Baxter, Joseph H. Dorr, reelected and Thomas B. Wales and Redford Webster elected 1825, declined.

George Blake reelected for 1826, declined.

John Stevens elected for 1832, died prior to the organization.

James Savage elected for 1834, declined.

COMMON COUNCIL.

William Bowes Bradford, ward 3, elected 1822, did not qualify himself, declining to be sworn, there being then no provision for affirmation, except for Quakers.

Lucius Manlius Sargent, ward 6, elected for 1827, declined.

Henry D. Gray and Isaac Harris, ward 1; Eleazer Howard, ward 2, and Joseph H. Thayer, ward 9, (now 8,) elected for 1828, declined prior to the organization.

Samuel Thaxter, ward 6, elected for 1830, declined.

William Foster, ward 6, elected for 1831, declined.

John Boles, ward 3, reelected for 1838, declined.

The Junior of George Morey omitted 1829.

Asa Adams, ward 3, took the intermediate name of Perry, 1830.

The Junior of Joshua Seaver, ward 6, omitted 1833.

The Junior of Henry Fowle, ward 2, omitted 1837.

The Junior of Francis Brinley, ward 10, omitted 1838.

Washington P. Gragg, ward 4, spelt Gregg since 1836.

There have been four successfully contested elections.

The first, Feb. 22, 1830, vacated the seat of a member from ward 6, on the ground that "closing the poll before the hour at which the voters were notified it would be closed, was a violation of the rights of the voters."

The second, May 7, 1835, vacated the seats of the members of ward 3, who were returned as having been elected at an adjourned meeting, Dec. 11, 1834, on the ground of irregular proceeding to render the whole number of votes certain by taking the highest number of votes for candidates on each opposing ticket; adjournment of the meeting by the sole authority of the warden, and other irregularities at the annual election, December 8.

The third case, March 7, 1839, vacated the seats of three members of ward 12, on the ground that a number of illegal voters sufficient to effect the choice, voted at the polls.

The fourth, Feb. 9, 1843, vacated the seats of three members from ward 1, returned as elected at the adjourned meeting, Dec. 14, on the ground that four votes for non-resident candidates, (*after having been first thrown out by the ward officers,) were counted at the annual election, December 12, thereby preventing the choice of two other candidates, who, by excluding the said four votes, were by the decision of the Council, declared elected, leaving one vacancy.

The election of Mayor for 1845, was more warmly contested than on any former year. There were not less than eight several ballotings by the citizens. At the eighth trial, on the 21st of February, Thomas A. Davis was elected.

In the meantime, from January to February 27, 1845, William Parker, one of the Aldermen, having been elected Chairman of the Board of Aldermen, performed the duties of Mayor.

In 1844, the office of City Attorney was abolished.

The words in the Catalogue, "*see No.*"—refer to wards.

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*This fact was admitted though not stated in the report of the Committee.

MAYORS.

John Phillips, 1822.
Josiah Quincy, 1823, 24, 25, 26, 27, 28.
Harrison Gray Otis, 1829, 30, 31.
Charles Wells, 1832, 33.
Theodore Lyman, jr., 1834, 35. See Note.
Samuel Turell Armstrong, 1836.
Samuel Atkins Eliot, 1837, 38, 39.
Jonathan Chapman, 1840, 41, 42.
Martin Brimmer, 1843, 44.
Thomas Aspinwall Davis, 1845, From Feb. 27th. See Note.

ALDERMEN.

Samuel Billings, 1822.
*Ephraim Elliot, 1822.
Jacob Hall, 1822.
*Joseph Head, 1822.
Joseph Jenkins, 1822.
Joseph Lovering, 1822.
Nathaniel Pope Russell, 1822, 40. See Note.
Bryant Parrot Tilden, 1822.
*Daniel Baxter, 1823, 24. See Note.
George Odiorne, 1823, 24.
*David Weld Child, 1823, 24.
Joseph Hawley Dorr, 1823, 24. See Note.
Asher Benjamin, 1823, 24. December, resigned.
Enoch Patterson, 1823, 1824.
Caleb Eddy, 1823, 24.
*Stephen Hooper, 1823, 24. September, died.
Cyrus Alger, November, 1824, 27.
Daniel Carney, 1825, 26.
*John Bellows, 1825, 26, 27.
*Josiah Marshall, 1825, 26.
*John Damarisque Dyer, 1825.
*Thomas Welch, jr., 1825, 26, 27.
*George Blake, 1825. See Note.
Henry Jackson Oliver, 1825, 26, 29, 30, 31, 32.
John Bryant, 1825.
John Foster Loring, 1826, 27, 28, 29, 30.
Francis Jackson, 1826.
Edward Hutchinson Robbins, 1826.
Jeremiah Smith Boies, 1827.
*Robert Fennelly, 1827, 28. September, died.
Thomas Beale Wales, 1827. See Note.
James Savage, 1827, 28. See Note.
Thomas Kendall, 1828, 29.
James Hall, 1828, 29.
Phineas Upham, 1828.
John Pickering, 1828.
Samuel Turell Armstrong, 1828, 29, 30, 31.
*Benjamin Russell, 1829, 30, 31, 32.

Winslow Lewis, 1829, 30, February, 35, 36.
Charles Wells, 1829, 30.
Moses Williams, 1830.
John Burbeck M'Cleary, 1830, 31, 32, 35, 36.
Henry Farnam, 1831, 32, 33, 37, 38, 39.
Adam Bent, 1831.
*John Binney, 1831, 32, 33.
Richard Devens Harris, 1831, 32. February, resigned.
Jabez Ellis, 1832, 33, 34.
*James Bowdoin, January, 1832.
*J. Stevens, died. See Note.
*William Tileston, February, 1832, 33.
Thomas Wetmore, 1833, 34, 35, [February, resigned, absence from the country,] 37, 38, 39, 41, 42, 43, 44.
Samuel Fales, 1833, 34.
Joseph Warren Revere, 1833.
Benjamin Fiske, 1833.
Charles Leighton, 1834, 35.
Josiah Dunham, 1834, 35, 36.
Nathan Gurney, 1834, 35, 36, 37, 37, 38, 39, 40, 42.
Samuel Atkins Eliot, 1834, 35.
Samuel Greele, January, 1834, 35, 36.
Joseph Henshaw Hayward, 1835, 36, 37, 38, 39.
Thomas Hunting, 1836, 37, 38, 39, 40, 41.
Samuel Quincy, 1836, 37, 39.
John B. Wells, 1837.
Thomas Richardson, 1837, 38.
Isaac Harris, 1838, 39.
Martin Brimmer, 1838.
James Harris, 1839.
James Clark, 1840, 41.
Charles Wilkins, 1840, 41.
Abraham Thompson Lowe, 1840, 41, 42, 43, 44.
William Turrell Andrews, 1840, 41.
Charles Amory, 1840, 41.
Benson Leavitt, 1841, 45.
Larra Crane, 1842, 1844.
William Parker, 1842, 43, 45. See Note.
Joseph Tilden, 1842.
James Longley, 1842, 43.
Richard Urann, 1842, 43.
Simeon Wilkinson, 1843.
Josiah Stedman, 1843.
Jonathan Preston, 1843.
Simon W. Robinson, 1844.
Henry B. Rogers, 1844.
William Pope, 1845.
John Hathaway, 1845.
Samuel S. Perkins, 1845.
Simon G. Shipley, 1845.
J. Cullen Ayer, 1845.
Lyman Reed, 1845.
James S. Savage, 1845.

PRESIDENTS OF THE COMMON COUNCIL.

William Prescott, 1822.
John Welles, 1823,
Francis Johonnot Oliver, 1824, 25.
John Richardson Adan, 1826, 27, 28.
Eliphalet Williams, 1829.
*Benjamin Toppan Pickman, 1830, 31.
John Prescott Bigelow, 1832, 33.
Josiah Quincy, jr., 1834, 35, 36.
Phillip Marett, 1837, 38, 39, 40.
Edward Blake, 1841, 42, 43.
Peleg Whitman Chandler, 1844, 45.

COMMON COUNCIL.

[*See Notes, pp.* 65, 66, 67.]

WARD 1.

William Barry, 1822, 24, 25, 26, 27.
*Thaddeus Page, 1822, 23. See 2.
Charles Wells, 1822.
Simon Wilkinson, 1822, 23, 27.
*John Eliot, 1823, 24, 25, 27.
Joseph Wheeler, 1823, 24.
Michael Tombs, 1824.
*Robert Fennelly, 1825.
Lewis Lerow, 1825, 26, April, resigned.
Lemuel Putnam Grosvenor, 1826. See 4.
Samuel Aspinwall, 1826, 27, 28.
Ninian Clark Betton, 1828, 29, 30.
*Horace Fox, 1828, December, seat vacated, having been appointed an Assistant Engineer.
Eleazer Pratt, 1828, 29, 30, September 37, 38.
John Wells, 1829, 39, took the intermediate letter B in 1830. See 2.
*Christopher Gore, 1829, 30.
Simon Wiggin Robinson, 1830, 31, 32, 33.
John Brigden Tremere, 1831. See 2.
Charles French, 1831, 32.
Frederick Gould. See 2. 1831.
John Centre, 1832.
Bill Richardson, 1832, 33.
Enoch Howes Snelling, 1833, 34, 36, 42, 43. Seat vacated February 9. See Note.
*Thomas Hart Thompson, 1833.
Henry D. Gray, 1834, 35. See Note.
Robert Keith, 1834, 35.
Henry Jackson Oliver, 1834.
Isaac Harris, 1835, 37, 41, 43, 44. See Note.
Caleb Gould Loring, 1835.
Joseph Bassett, 1836.
*Gilbert Nurse, 1836, September, resigned, removed from City.
William Eaton, 1836. See 3.
*Erasmus Thompson, 1837. August, died.
Thomas Hudson, 1837, 38.
Samuel Locke Cutter, 1837.
Benjamin Dodd, 1838, 39, 41.
Bradley Newcomb Cumings, 1838.
Zebina Lee Raymond, 1839, 40.
William Dillaway, 1839, 41.
Henry Leeds, 1840.
William Russell Lovejoy, 1840.
Peter Dunbar, 1840.
Henry Northey Hooper, 1841, 45.
Norton Newcomb, 1842.
Cyrus Buttrick, 1842, 45.
Perkins Boynton, 1842, 45.
Joshua Bentley Fowle, 1843, Seat vacated Feb. 9. See Note.
Jacob George Lewis Libby, 1843. Seat vacated February 9. See Note.
Daniel Bartlett, jr., February 10, 1843.
William Henry Learnard, February 10, 1843, 44.
Job Turner, 1844.
John P. Ober, 1844.
Samuel P. Oliver, 1845.

WARD 2.

Martin Bates, 1822, 23.
Benjamin Lamson, 1822, 23.
Henry Orne, 1822, July, resigned, appointed one of the Justices of the Police Court.
*Joseph Stodder, 1822, 23.
*John Parker Boyd, 1823.
*William Little, jr., 1824. See 12.
*Oliver Reed, 1824, 25.
*Joseph Stone, 1824.
*Thaddeus Page, See 1. 1824.
*Scammel Penniman, 1825, 26, 27.
*Benjamin Clark, 1825, 26, 27.
*John Fenno, 1825, 26.
Nathaniel Faxon, 1826.
John Warren James. See 4. 1827, 28, 29, 30, 31, 32, 33, 34, 35.
*John Floyd Truman, 1827.
Frederick Gould, 1828. See 1.
Henry Fowle, jr., 1828, Seat vacated, December, having been appointed an Assistant Engineer. See Note.
George Washington Johnson, 1828.
Henry Sewall Kent, 1829.
Samuel Ellis, 1829, 30.
*Thomas Reed, 1829, February died.
*Daniel Ballard, March, 1829, 30, 31, 38.
John B. Wells, 1830, 33. See 1.
Ephraim Milton, 1831, 32.
Daniel Dickinson, 1831, 32.
John Brigden Tremere. See 1. 1832, 34.
Henry Andrews, 1833.
George Priest Thomas, 1833.
George Washington Smith, 1834. See 3.
Joseph Melcher Leavitt, 1834.
Stephen William Olney, 1835.
Lewis Josselyn, 1835, 36, 37, 38.
Thomas Hollis, 1835.
Thatcher Rich Raymond, 1836, 37, 38.
Nathan Carruth, 1836, 37.
Thomas Moulton, 1836, 37, 38, 39.
Richard Brackett, 1839, 40i 41.
Freeborn Fairfield Raymond, 1839, 40, 41.
Samuel Emmes, 1839, 40, 41, 42.
Erastus Wilson Sanborn, 1840, 41.
Aaron Adams, 1842, 43.
Joseph Cullen Ayer, 1842, 43, 44.
Abner Williams Pollard, 1842, 43, 44.
Henry Davis, 1843, 44.
Timothy C. Kendall, 1844.
James Munroe, 1845.
William R. Carnes, 1845.
Benjamin Wood, 2d, 1845.
John Turner, 1845.

WARD 3.

Theodore Dexter, 1822, 23. See 4.
Joshua Emmons, 1822.
Samuel Jones, 1822, 23.
John Richardson Adan, 1823, 24, 25, 26, 27, 28.
*John Damarisque Dyer, 1823, 24, 27, 28, April, resigned, removed from City.
Edward Page, 1824.
*William Sprague, 1824, 26.
*Thomas Wells, 1825.
Abraham Williams Fuller, 1825.
Amos Farnsworth, 1825, 26.
Asa Adams, 1826, 27. See Note.
Thomas Gould, 1827, 28, 29, 38.
*Levi Roberts Lincoln, 1820, 29, 30.

James Lendall Pitts Orrok, May, 1828.
Joseph Bradley, 1829.
*Amos Bradley Parker, 1829.
Larra Crane, 1830, 31, 32, 33.
Michael Lovell, 1830.
James Clark, 1831, 32, 33.
Asa Swallow, 1831, 32, 45.
Samuel Chessman, 1831, 32, 33.
Phillip Adams, 1833.
John Snelling, 1834, 35. [Seat vacated May 7, See Note, returned May 21,] 39, 40, 41, 42, 44.
Simon Green Shipley, 1834, 35, [Seat vacated May 7, See Note, returned May 21,] 39, 40, 41, 42.
Joshua Sears, See 8, 1834.
William Truman Spear, 1835, [Seat vacated May 7, See Note, returned May 21.]
George Washington Smith, See 2, 1835, [Seat vacated May 7, See Note, returned May 21.]
John Boles, 1836, 37. See Note.
Benjamin Kimball, 1836.
Jason Dyer Battles, 1836, 37.
Asa Barker Snow, 1836, 37, 38.
William Orne Haskell, 1837.
Charles Arnold, 1838.
Rowland Ellis, 1838.
William Eaton, See 1. January, 1838.
Jacob Stearns, 1839, 40, 41, 42.
Ezekiel Bates, 1839.
Dexter Follet, 1840.
Benajah Brigham, See 4, 1841.
Enoch Hemmenway Wakefield, 1842, 3.
James Whiting, 1843, 44, 45.
James Harvey Dudley, 1843, 44.
Oliver Dyer, 1844.
James Boynton, 1844.
Artemas Ward, 1845.
Cyrus Cummings, 1845.

WARD 4.

*Joseph Coolidge, 1822, 23, 24, 25.
Samuel Perkins, 1822, 23.
Robert Gould Shaw, 1822, 23, 24, 33.
Joel Thayer, 1822.
Henry Farnam, 1823.
*Jeremiah Fitch, 1824.
William Rounsville Pierce Washburn, 1824, 25.
George Hallet, 1825, 26, 27, 32
Theodore Dexter. See 3, 1825, June, resigned.
William Howe, 1826, 27.
John Warren James, 1826. See 2.
Joseph Eveleth, 1826, 27, 28. See 5, 31, 32, 33.
Quincy Tufts, 1827, 28, 29, 30.
Andrew Cunningham, jr., 1828, 29, the Junior omitted.
James Means, 1828. See 7.
John Rayner, 1829, 30, 31, 32.
Samuel Davenport Torrey, 1829, 30.
Washington Parker Gragg, 1830, 31. See Note.
Joshua Baker Flint, 1831, 32.
Edward Blake, 1833. See 7.
Silas Pierce Tarbell, 1833.
Ammi Cutter, 1834.
Ezra Trull, 1834.
Asa Lewis, 1834.
George Worthington Lewis, 1834.
Moses Grant, 1835, 36, 37, 38, 39, 40, 41, 42.
George William Gordon, 1835, 36, 37, 38, 39, May, resigned, having been elected one of the Overseers of the House of Reformation.

Henry Lincoln, 1835, 36.
Benajah Brigham, 1835, 36. See 3.
Joseph Thornton Adams, 1837, 41.
Lemuel Putnam Grosvenor. See 1, 1837, 38.
Jsmes Morris Whiton, 1838.
Charles Wilkins, 1839.
James Haughton, 1839, 40, 41.
Alfred Augustus Wellington, May, 1839, 40, 41.
Lucius Doolittle, 1840.
Francis Boardman Crowninshield, 1842, 43, 44.
William Brown Spooner, 1842.
Noah Sturtevant, 1842, 43.
George Washington Crockett, 1843, 44.
Thomas Buckminster Curtis. See 7, 1843, 44, 45.
Samuel W. Hall, 1844, 45.
S. Abbott Lawrence, 1845.
Sargent S. Littlehale, 1845.

WARD 5.

George Washington Coffin, 1822.
Thomas Kendall, 1822, 23.
Horatio Gates Ware, 1822.
Isaac Winslow, 1822, 23.
Elias Haskell, 1823, 24.
*John Sullivan Perkins, 1823, 25.
Eliphalet Porter Hartshorn, 1824, 32, 33.
George Washington Otis, 1824, 28.
Winslow Wright, 1824, 30, 31.
*William Simonds, 1825.
Ezra Dyer, 1825, 26.
*Charles Tracy, 1825, 26.
Jonathan Thaxter, 1826, 27, 29.
William Parker, 1826, 27, 28, 29, 31, 32.
Lewis Glover Pray, 1827, 28.
George Lane, February, 1827, 28, 29.
Joseph Eveleth, 1829, 30. See 4.
Levi Haskell, 1830, took the intermediate name of Boynton, 31, 32.
Charles Leighton, 1830, 31, 32, 33.
Abel Phelps, 1833.
*Peres Loring, 1833.
Michael Roulstone, 1834.
Nathaniel Fellowes Cunningham, 1834.
*Calvin Washburn, 1834, 35.
Enoch Hobart, 1834, 35.
Abraham Waters Blanchard, 1835, 36.
John Cochran Park, 1835, 36.
George Washington Edmands, 1836.
Ebenezer Ellis, 1836, 37.
Edmund Trowbridge Hastings, 1837.
Philip Greely, jr., 1837, 40.
Francis Brown, 1837, 38.
Nathaniel Hammond, 1838, 39, 40.
James McAllaster, 1838, 39.
Theophilus Burr, 1838.
William Vinal Kent, 1839, 40.
Ephraim Larkin Snow, 1839, November, resigned, removed from City.
George Washington Otis, jr., 1840, 41.
Pelham Bonney, 1841, 42.
Freeman Stowe, 1841.
Edward Parker Meriam, 1841.
George Wheelwright, 1842, 43, 44.
Henry Plympton, 1842, 43.
Samuel Ripley Townsend, 1842
Willard Nason Fisher, 1843, 44
James Fowle, 1843.
Charles Boardman, 1844, 45
Loring Norcross, 1844, 45.
Benjamin Seaver, 1845.
George R. Sampson, 1845.

WARD 6.

Samuel Appleton, 1822.
Thomas Motley, 1822.
Jesse Shaw, 1822, 34, 35.
*William Sullivan, 1822.
Joseph Stacy Hastings, 1823. 24, 25, 26, 31, 32, 33, 34.
*Joel Prouty, 1823, 24.
*John Stevens, 1823. See 12.
William Wright, 1823, 24. See 12.
Thomas Wiley, 1824, 25, 26.
Isaac Waters, 1825, 26, 27, 28, 29, 30, 31, 32, 33, 36, 37. June, resigned, August, re-elected.
*Samuel Thaxter, 1825, 26, 27. See Note.
*Jonathan Loring, 1827.
Joseph Warren Lewis, 1827.
Francis Johonnot Oliver, See 10, 1828.
*Ebenezer Appleton, 1828.
*David Moody, 1828.
Samuel Austin, jr., 1829. April 30.
Jared Lincoln, 1829, 30.
Samuel Goodhue, 1829.
Joshua Seaver, jr., 1830. See Note.
Benjamin Parker, January, 1830, February 22, seat vacated. See Note.
Ensign Sargent, 1831.
Stephen Titcomb, January, 1831, 35.
Jonathan Porter, 1832.
Grenville Temple Winthrop, 1832, 33, 34.
Luther Parks, 1833.
George Washington Bazin, 1834.
Jonathan Chapman, 1835, 36, 37, 38, 39.
Amos Wood, 1835, 36.
Henry Upham, 1836.
Ezra Lincoln, 1837, 38, 39, 40, 41, 42.
Henry Edwards. See 7. 1837, 38.
Newell Aldrich Thompson, 1838 39, 40, 41, May, resigned.
Horace Williams, 1839.
John Hubbard Wilkins, 1840, 41, 42, 43.
Elijah Williams, jr., 1840.
Enoch Train, 1841, 42.
Joseph Neale Howe, jr. July, 1841, 42, 43.
Peleg Whitman Chandler, 1843, 44, 45.
Kimball Gibson, 1843, 44, 45.
John Gardner, 1844.
Otis Clapp, 1844, 45.
George S. Hillard, 1845.

WARD 7.

*Jonathan Amory, 1822, 23.
Patrick Tracy Jackson, 1822.
Augustus Peabody, 1822, 26.
Enoch Silsby, 1822, 23.
Charles Pelham Curtis, 1823, 24, 25, 26.
Samuel Swett, 1823.
*William Goddard, 1824, 25.
*Elijah Morse, 1824, 25.
Isaac Parker, 1824, 25, 26, 32, 38, 39, 40.
Edward Brooks, 1826.
*Samuel Dorr, 1827.
Samuel Dexter Ward, 1827.
John Arno Bacon, 1827, 28.
Thomas Walley Phillips, 1827.
John Belknap, 1828.
Thomas Wren Ward, 1828, July, resigned, absence from the country.
Waldo Flint, 1828. February, resigned, removed from City.
*George Washington Adams, May, 1828, 29. May, died.

*Benjamin Toppan Pickman, August, 1828, 29, 30, 31.
Thomas Wetmore, 1829, 30, 31, 32.
Walter Frost, 1829.
Isaac Danforth, May, 1829, 30.
Elias Hasket Derby, 1830.
Levi Bartlett, 1831, 32, 33, 34, 37.
Abbott Lawrence, 1831.
Henry Rice, 1832, 33, 34, 38.
William Tappan Eustis, 1833, 34, 35, 36, 42.
Josiah Quincy, jr., 1833, 34, 35, 36.
Horatio Masa Willis, 1835.
James Means. See 4. 1835.
Henry Edwards, 1836. See 6.
James Thomas Hobart, 1836, 37.
Thomas Buckminster Curtis, 1837, 38. See 4.
Simon Davis Leavens, 1837, 38, 44, 45.
Philip Marett. See 11. 1839, 40.
Elbridge Gerry Austin. See 10. 1839, May, resigned.
Ezra Child Hutchins, 1839, 40, 41.
Edward Blake. See 4. May, 1839, 40, 41, 42, 43.
John Plumer Healey, 1841, 42.
Theophilus Rogers Marvin, 1841, 42, 43.
John Slade, jr., 1843.
George Tyler Bigelow, 1843.
Gideon F. Thayer. See 10. 1844, 45.
John B. Parker. See 8. From May 23, 1844, 45.
*Benjamin B. Appleton, 1844, died April 22.
Joseph Bradlee, 1844, 45.

WARD 8, (*Formerly* 9.)

*David Watts Bradlee, 1822, 27.
Peter Chardon Brooks, 1822.
*James Perkins, 1822.
*Benjamin Russell, 1822, 23, 24, 27, 28.
James Savage, 1823. See 10.
Eliphalet Williams, 1823, 24, 25, 27, 28, 29, 33, 34, 35, 36, 37, 38, 39, 40, 41.
Samuel King Williams, 1823, 24, 28, 29.
Benjamin Willis, 1824, 25.
Jeffrey Richardson, 1825.
Josiah Bradlee, 1825.
Francis Bassett, 1826.
Joseph Helger Thayer, 1826. See Note.
Joseph Hawley Dorr, 1826.
John Baker, 1826.
Joshua Sears, 1827. See 3.
Thomas Lamb, 1828.
*Thomas Minns, 1829, 30, 31, 32.
James Brackett Richardson, 1829, 30, 31, 34.
*Joseph Reynolds Newell, 1830, 31.
*Leach Harris, 1830, 31.
Richard Hildreth, 1832.
James Brown, 1832.
John Lewis Dimmock, 1832.
*Silas Bullard, 1833.
Francis Osborn Watts, 1833.
*Abner Bourne, 1833.
Henry Sargent, 1834.
Edward Cruft, jr., 1834, 35.
*Ebenezer Bailey. See 10. 1835.
Horace Dupee, 1835, 36, 37.
William Greene Eaton, 1836, 37.
Aaron Breed, 1836, 37.
Benjamin Parker Richardson, 1838, 40, 41, 42, 43, 44.
John Brooks Parker, 1838, 39.
Thomas Jefferson Shelton, 1838, 39, 40, 41.
William Walker Parrott, 1839, 40, 41.
William Augustus Weeks, 1842, 43.

Josiah Moore Jones, 1842, 43.
Benjamin Burchstead, 1842, 43.
Samuel Topliff, 1844, 45.
George Whittemore, 1844, 45.
Samuel Harris, 1844.
James Hayward, 1845.
Daniel Denny, 1845.

WARD 9. (*Formerly* 8.)

*Jonathan Davis, 1822, 23, 24.
*Hawkes Lincoln, 1822, 23, 24.
*William Prescott, 1822.
John Welles, 1822, 23.
Lewis Tappan, 1823.
John Ballard, 1824.
John Chipman Gray, 1824, 25, 26, 27, 28.
Franklin Dexter, 1825.
Jeremiah Smith Boies, 1825, 26.
*Levi Meriam, 1825, 26, 27.
Charles Torry, 1826.
*Gamaliel Bradford, 1827.
John Prescott Bigelow, 1827, 28, 29, 30, 31, 32, 33.
*Norman Seaver, 1828.
Daniel Lewis Gibbens. See 10. 1828, 29, 35, 36.
*Jacob Amee, 1829, 30, 31, 32, 33.
Levi Brigham, 1829, 30.
*Edward Goldsborough Prescott, 1830, 31, 32, 33, 34.
Edward Huchinson Robbins, 1831, 32.
Oliver William Bourn Peabody, 1833, 34.
Benjamin Apthorp Gould, 1834, 35, 36, 37.
Isaac McLellan, jr., 1834.
Zebedee Cook, jr., 1835.
James Harris, 1835, 36, 37, 38.
Thomas Coffin Amory, 1836, 37, 38, 39, 40, 41, 42.
Charles Brooks, 1837, 38, 39, 40.
John Brooks Russell, 1838. June, resigned, removed from City.
Jonathan Preston. See 10. 1839, 40, 41.
Stephen Shelton. See 10. 1839, 40, 41.
*Moses Whitney, jr., 1841, 42.
Charles Cook, 1842, 43, 44, 45, took the intermediate name of Edward, in 1842.
John Rice Bradlee, 1842, 43.
Andrew Townsend Hall, 1843, 44, 45.
Clement Willis, 1843, 44, 45.
Charles H. Brown, 1844, 45.

WARD 10.

*Andrew Drake, 1822.
Daniel Lewis Gibbens, 1822. See 9.
David Collson Moseley, 1822.
*Isaac Stevens, 1822.
Aaron Baldwin, 1823, 26.
David Francis, 1823.
Francis Johonnot Oliver, 1823, 24, 25. See 6.
Thomas Beale Wales, 1823, 24.
James Savage. See 8. 1824, 25.
Phineas Upham, 1824.
*Jonathan Simonds, 1825, 27, 28, 29.
John Parker Rice, 1825, 26, 30.
Solomon Piper, 1826, 35, 36, 37.
Charles Barnard, 1826.
George Brinley, 1827.
William Parker, 1827, 28.
Charles Sprague, 1827. See 11 and 12.
*John Lowell, jr., 1828, 29, 30.
George Bethune, 1828. April, resigned, removed from city.

Robert Treat Paine, May, 1828. See 11.
*Samuel Leonard Abbot, 1829, 30, 31.
Charles Casey Starbuck, 1829.
Levi Bliss, 1830, 31.
*Ebenezer Bailey, 1831, 32. See 8.
Josiah Pierce, 1831, 32, 33.
Francis Brinley, jr., 1832. See Note.
John Collamore, jr., 1832.
Daniel Messinger, 1833, 34.
*Israel Martin, 1833, 34, 35, 36. March, resigned, removed from city.
Thomas Richards Dascomb, 1833, 34.
William Reed, 1834.
Richard Sullivan Fay, 1835.
Jedediah Tuttle, 1835, 36, 37.
Elbridge Gerry Austin, 1836, 37, 38. See 7.
Benjamin Yeaton, April, 1836, 37, 38.
Jonathan Preston, 1838. See 9.
Stephen Shelton, 1838. See 9.
Gideon French Thayer, 1839.
Ruel Baker. See 11. 1839, 40, 41.
Winslow Lewis, jr. 1839.
Lemuel Shattuck. See 11. 1839, 40, 41.
George William Phillips, 1840.
Daniel Kimball, 1840, 41.
Luther Blodgett, 1841, 42, 43.
William Hayden, 1842, 43, 44, 45.
Jonathan Ellis, 1842, 43, 44.
Henry Worthington Dutton, 1842, 43, 44, 45.
Horace Williams. See 6. 1844, 45.
James Dennison, 1845.

WARD 11.

*George Watson Brimmer, 1822.
*Asa Bullard, 1822, 23.
*Barzillai Homes, 1822.
Winslow Lewis, 1822.
*Charles Howard, 1823.
Josiah Stedman, 1823, 24.
*Joseph Willett, 1823.
Samuel Frothingham, 1824, 25.
Giles Lodge, 1824, 25, 26, 27.
Charles Sprague, 1824. See 10 and 12.
George Morey, jr., 1825, 26, 27. See Note.
*Joshua Vose, 1825, 26, 27.
Thomas Brewer, 1826.
Josiah Vose, 1827.
Otis Everett, 1828, 29, 30, 31.
Otis Turner, 1828, 29.
Perez Gill, 1828, 29, 30, 31.
Payson Perrin, 1828, 29.
Jabez Ellis, 1830, 31.
Joseph Hay, 1830, 31, 32.
John Lillie Phillips, 1832.
*Gilman Prichard, 1832.
Henry Willis Kinsman, 1832.
Robert Treat Paine. See 10. 1833, 34.
John Doggett, 1833.
Samuel Gilbert, jr., 1833.
Ruel Baker, 1833, 34, 35. See 10.
Elias Bond Thayer, 1834, 35, 36.
Philip Marett, 1834, 35, 36, 37, 38. See 7.
John Thompson, 1835, 36.
Benjamin Marshall Nevers, 1836.
Lemuel Shattuck, 1837, 38. See 10.
Calvin Bullard, 1837, 38.
*Thomas Vose, 1837, 38.
Warren White. See 12. 1839.
Samuel Wheeler. See 12. 1839.
Elisha Copeland, jr., 1839.
John Stevens, 1839, 40.
Holmes Hinkley, 1840.
George Savage. See 12. 1840.
John Thomas Dingley. See 12. 1840, 42.

John Gardner Nazro, 1841.
Richard Urann, 1841,
Edward Shirley Erving, 1841, 43, 44.
John Gray Roberts, 1841.
William Dall, 1842.
Asaph Parmelee, 1842.
Robert Cowdin, 1842, 43.
Isaac Cary, 1843, 44.
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	11	12	13	14	15	16	17
	18	19	20	21	22	23	24
	25	26	27	28	29	30	31
June.	1	2	3	4	5	6	7
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1845.	Sund.	Mond.	Tues.	Wedn.	Thur.	Frid.	Satur.
July.	:::	:::	1	2	3	4	5
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August.	:::	:::	:::	:::	:::	1	2
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	31	:::	:::	:::	:::	:::	:::
Sept'r.	:::	1	2	3	4	5	6
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October.	:::	:::	:::	1	2	3	4
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	26	27	28	29	30	31	:::
Novem'r.	:::	:::	:::	:::	:::	:::	1
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	9	10	11	12	13	14	15
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	23	24	25	26	27	28	29
	30	:::	:::	:::	:::	:::	:::
Decem'r.	:::	1	2	3	4	5	6
	7	8	9	10	11	12	13
	14	15	16	17	18	19	20
	21	22	23	24	25	26	27
	28	29	30	31	:::	:::	:::

City Document—No. 10.

LIST OF
PERSONS, COPARTNERSHIPS,
AND
CORPORATIONS,
WHO WERE
TAXED TWENTY-FIVE DOLLARS AND UPWARDS,
IN THE CITY OF BOSTON,
IN THE YEAR 1844,

Specifying the amount of Tax on Real and Personal Estate, severally, conformably to an Order of the City Council.

BOSTONIA
CONDITA AD.
1630.

BOSTON:
JOHN H. EASTBURN, CITY PRINTER.
1845.

TAXES

IN THE CITY OF BOSTON,

AMOUNTING TO

TWENTY-FIVE DOLLARS AND UPWARDS.

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
1	Abbot Benjamin	7,900	47 40	400	2 40
6	Abbot Samuel L., heirs	12,000	72 00		
7	Abbot Abiel			6,000	36 00
5	Abbott George W.	5,000	30 00	15,000	90 00
5	Abbott Geo. W., adm'r			15,000	90 00
12	Abbott Appleton	3,200	19 20	1,000	6 00
1	Abrahams Benj. & Co.			5,000	30 00
1	Abrams Joseph	5,100	30 60		
1	Adams Philip	23,200	139 20	5,000	30 00
1	Adams John R.	4,200	25 20		
2	Adams Aaron			5,000	30 00
2	Adams Joseph	8,000	48 00		
2	Adams & Hammond	10,000	60 00	15,000	90 00
3	Adams Asa P.	5,400	32 40		
3	Adams John, heirs	6,200	37 20		
3	Adams Wm. and others	6,000	36 00		
4	Adams John Q.	47,200	283 20		
4	Adams William	9,300	55 80		
4	Adams Benjamin	159,900	959 40	10,000	60 00
4	Adams Simeon P.	9,000	54 00	3,000	18 00
4	Adams Sumner	8,200	49 20	18,000	108 00
5	Adams Isaac, heirs	5,000	30 00		
6	Adams William, trustee	5,000	30 00		
6	Adams John	2,400	14 40	6,000	36 00
6	Adams Lucy	18,500	111 00		
6	Adams Joseph H.	12,000	72 00	2,000	12 00
6	Adams Charles Francis	15,400	92 40	7,000	42 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
6	Adams Charles Fred'k,	11,000	66 00	7,000	42 00
7	Adams Laban	42,600	255 60	3,000	18 00
8	Adams Zabdiel B.	25,000	150 00	5,000	30 00
8	Adams Zabdiel B., guardian	6,000	36 00		
8	Adams, Homer & Co.			80,000	480 00
9	Adams Thomas	8,000	48 00	28,000	168 00
9	Adams Abel	13,000	78 00	10,000	60 00
10	Adams Josiah & Henry Wood,	5,000	30 00		
10	Adams Nehemiah	5,000	30 00	1,200	7 20
10	Adams Joel M.	4,000	24 00	400	2 40
11	Adams Francis			5,000	30 00
12	Adams Isaac	10,400	62 40		
12	Adams Seth & Co.			10,000	60 00
12	Adams Seth	11,400	68 40		
4	Adan John R.	29,000	174 00	28,000	168 00
4	Aiken Silas			5,000	30 00
9	Aiken Calvin	12,400	74 40	1,000	6 00
7	Aitken & Miller			5,000	30 00
10	Albany Wharf and Warehouse Corp'n	20,000	120 00		
4	Albee John	19,000	114 00	60,000	360 00
3	Aldrich Aaron	8,800	52 80	11,000	66 00
6	Alexander Francis	6,000	36 00	1,200	7 20
12	Alger Cyrus	58,600	351 60		
2	Allen Samuel R.	3,800	22 80	1,000	6 00
3	Allen Stephen M.	4,800	28 80		
4	Allen Alfred	8,900	53 40		
4	Allen Freeman	18,000	108 00	4,000	24 00
4	Allen Andrew J.	53,200	319 20	5,000	30 00
7	Allen Thaddeus	6,000	36 00		
7	Allen Ephraim & Co.			5,000	30 00
8	Allen Hannah	4,000	24 00	10,000	60 00
8	Allen Hannah, guardian			8,000	48 00
8	Allen Hannah M.			8,000	48 00
8	Allen James, heirs	30,600	183 60		
8	Allen Samuel P.	13,000	78 00	40,000	240 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
8	Allen Joseph, heirs	8,600	51 60		
10	Allen Jabez, heirs	5,800	34 80		
12	Allen William W.	4,400	26 40		
12	Allen Charles J. F.	5,200	31 20		
4	Alley Nathaniel J.			6,000	36 00
5	Alley Nathaniel, heirs	20,000	120 00		
5	Alline Henry	2,000	12 00	3,600	21 60
8	Almy, Patterson & Co.			65,000	390 00
10	Amee Josiah L. C.	7,000	42 00	400	2 40
4	American Insurance Co.	35,000	210 00		
11	American Bank	5,400	32 40		
2	Ames A. & J.	13,700	82 20		
3	Ames Israel	64,600	387 60	1,000	6 00
8	Ames Nathaniel F., heirs	6,000	36 00		
8	Ames Maria C., adminis'x			10,000	60 00
8	Ammidown, Bowman & Co.			30,000	180 00
4	Amory William & G. M. Dexter, trustees	7,000	42 00		
6	Amory Charles	20,000	120 00	90,000	540 00
6	Amory William	3,400	20 40	35,000	210 00
7	Amory Thomas C., jr., agent and owner	93,600	561 60	5,000	30 00
7	Amory Francis	128,000	768 00		
7	Amory Hannah R.	21,000	126 00	60,000	360 00
9	Amory Thomas C.	11,000	66 00	1,000	6 00
2	Andre Charles,			7,000	42 00
2	Andrews Henry G., administrator			20,000	120 00
3	Andrews Ebenezer T.	4,000	24 00	400	2 40
4	Andrews H. G. & B. H., trustees	12,000	72 00		
6	Andrews Erasmus J.	7,000	42 00		
6	Andrews Joseph	9,000	54 00		
6	Andrews Henry	3,600	21 60	14,000	84 00
6	Andrews Henry & S. A. Eliot, trustees	7,400	44 40	85,000	510 00
7	Andrews Caleb	13,000	78 00		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
7	Andrews & Brother			6,000	36 00
7	Andrews Eben'r T.	160,300	961 80	60,000	36 00
7	Andrews William T.			5,000	30 00
7	Andrews William T., trustee			44,000	264 00
7	Andrews Henry G.	23,800	142 80		
8	Andrews Alfred A.	4,000	24 00	6,000	36 00
8	Andrews C. & Co.			25,000	150 00
9	Andrews John B., heirs	10,400	62 40		
11	Andrews Henry R.	16,000	96 00		
2	Appleton William & Co.			150,000	900 00
2	Appleton William and others, trustees			25,000	150 00
2	Appleton William and others, trustees			44,000	264 00
3	Appleton Manufacturing Co.	15,200	91 20		
6	Appleton Sarah F.	6,000	36 00		
6	Appleton Samuel	166,400	998 40	150,000	900 00
6	Appleton Nathan	90,000	540 00	180,000	1,080 00
6	Appleton Thomas G.			13,000	78 00
6	Appleton William	135,000	810 00	100,000	600 00
7	Appleton Samuel A.	16,000	96 00		
7	Appleton Benjamin B., heirs	54,000	324 00		
9	Appleton William and others	7,000	42 00		
4	Apthorp, Meads & Co.			7,000	42 00
10	Apthorp John T.	75,000	450 00		
10	Aqueduct Corporation	7,000	42 00		
11	Archbald George	11,400	68 40		
4	Armstrong George W.			5,000	30 00
6	Armstrong Samuel T.	100,500	603 00	15,000	90 00
8	Arnold Charles & Co.			12,000	72 00
10	Arnold Joseph	3,400	20 40	1,000	6 00
7	Ashton Elisha V. & Co.			18,000	108 00
7	Ashton Elisha V.	21,000	126 00		
7	Ashton E. V. & E. E. Dyer	22,000	132 00		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
9	Ashton John	5,000	30 00		
9	Ashton John, heirs	14,000	84 00		
10	Ashton John & Co.	5,400	32 40		
1	Aspinwall Samuel	25,000	150 00	5,000	30 00
8	Atherton Samuel			10,000	60 00
1	Atkins Thomas G.	74,400	446 40	4,000	24 00
4	Atkins & Stedman			35,000	210 00
4	Atkins & Sturtevant, and J. Noble	9,800	58 00		
7	Atkins Henry	13,000	78 00		
8	Atkins & Freeman			7,000	42 00
8	Atkins & Sturtevant	22,000	132 00	3,000	18 00
9	Atkins Benjamin	22,800	136 80	30,000	180 00
9	Atkins Isaiah	6,000	36 00		
8	Atkinson & Rollins			60,000	360 00
8	Atlantic Bank	35,000	210 00		
5	Atlas Bank			11,000	66 00
6	Atlas Insurance Co.	7,000	42 00		
1	Austin Joseph	7,600	45 60	17,000	102 00
2	Austin Joseph, jr.	3,800	22 80	400	2 40
3	Austin Jane, heirs	26,000	156 00		
4	Austin Loring H.	15,000	90 00		
4	Austin James T. and others	6,000	36 00		
7	Austin James T.	42,800	256 80	50,000	300 00
8	Austin Samuel, jr.			120,000	720 00
8	Austin Edward			60,000	360 00
9	Austin Thomas	24,800	148 80	400	2 40
10	Austin Hannah T.	15,600	93 60		
2	Ayer Joseph C.	8,800	52 80	1,000	6 00
10	Ayling Henry	5,000	30 00		
4	Aylwin William C.	400	2 40	9,000	54 00
2	Ayers Charles W.	5,000	30 00		
5	Babbitt Cyrus	6,000	36 00		
11	Babbitt Isaac	12,000	72 00	5,000	30 00
3	Babcock Nancy	6,000	36 00		
4	Babcock & Coolidge			15,000	90 00
10	Babcock Dexter	5,400	32 40		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
1	Bachelder Thomas G.			5,000	30 00
2	Bacon Robert & Sons			10,000	60 00
3	Bacon John	38,800	232 80	8,000	48 00
3	Bacon Thomas C.	6,600	39 60		
6	Bacon Francis			10,000	60 00
8	Bacon, Davis & Brown			10,000	60 00
8	Bacon Joseph V. & Son			8,000	48 00
10	Bacon Jacob	22,000	132 00	1,000	6 00
10	Bacon Elizabeth	5,600	33 60		
1	Badger Robert S.	12,200	73 20		
1	Badger David N.	7,200	43 20		
4	Badger Willard	13,000	78 00		
8	Badger Daniel B.	6,000	36 00	2,000	12 00
10	Badlam Stephen,	13,800	82 80	9,000	54 00
3	Bagley Currier F. & Co.			5,000	30 00
8	Bagnall Thomas	5,600	33 60		
4	Bailey Henry & Co.			5,000	30 00
8	Bailey & Jenkins	5,000	30 00	1,000	6 00
8	Bailey Calvin	6,600	39 60	1,000	6 00
2	Baker Joshua & Co.			6,000	36 00
4	Baker Francis	4,600	27 60	5,000	30 00
7	Baker Letitia	12,000	72 00		
8	Baker Eliphalet & Co.			30,000	180 00
8	Baker Eliphalet	59,300	355 80		
9	Baker Walter	18,000	108 00		
9	Baker Joseph	38,000	228 00		
10	Baker Ruel	13,400	80 40	3,000	18 00
10	Baker John	4,000	24 00		
10	Baker Joseph	4,000	24 00		
3	Baldwin Thomas, heirs	9,800	58 80		
4	Baldwin Enoch	12,000	72 00	10,000	60 00
4	Baldwin James F.	4,200	25 20	20,000	120 00
7	Baldwin Aaron	56,000	336 00	10,000	60 00
4	Ball Abel			7,000	42 00
8	Ball Daniel G.	11,000	66 00	1,000	6 00
2	Ballard Betsey	4,000	24 00		
2	Ballard Daniel, heirs	37,000	222 00		
7	Ballard & Prince			40,000	240 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
2	Ballord Albert & Co.			7,000	42 00
6	Ballou Hosea	3,400	20 40	7,000	42 00
4	Bancroft Thomas P.			20,000	120 00
4	Bancroft Jacob	29,000	174 00	15,000	90 00
5	Bancroft Henry	5,000	30 00		
8	Bancroft Aaron	41,600	249 60	15,000	90 00
9	Bancroft George	19,800	118 80	20,000	120 00
2	Bangs Benjamin	34,900	209 40	30,000	180 00
4	Bangs & Brewer			15,000	90 00
6	Bangs George P.	9,000	54 00		
8	Bangs G. & W. & Co.			40,000	240 00
16	Banister John F.	6,000	36 00	400	2 40
2	Barber Samuel, heirs	4,600	27 60		
9	Barber Sewell	6,000	36 00	5,000	30 00
10	Barber George	3,400	20 40	1,000	6 00
12	Barber James	15,000	90 00	400	2 40
2	Barnard, Adams & Co.			115,000	690 00
2	Barnard Charles, ex'r			328,000	1,968 00
3	Barnard James	4,600	27 60		
3	Barnard Joseph	7,000	42 00		
3	Barnard John M. & Co.			20,000	120 00
3	Barnard John M.	26,000	156 00		
5	Barnard John	4,000	24 00		
9	Barnard Charles	16,000	96 00		
10	Barnard Charles F.	7,000	42 00	800	4 80
1	Barnes Thomas P.	3,600	21 60	6,000	36 00
2	Barnes James H.	6,400	38 40	500	3 00
2	Barnes Martin	13,400	80 40	3,000	18 00
2	Barnes Benjamin and S. Beals	11,800	70 80		
4	Barnes Thomas	21,000	126 00	3,000	18 00
4	Barnes D. W. & S. H.			20,000	120 00
5	Barnes John	5,500	33 00	3,000	18 00
10	Barnes Silas P.	10,200	61 20	2,000	12 00
11	Barney Christopher C.	3,200	19 20	2,000	12 00
12	Barr Thomas	8,000	48 00		
4	Barrett Samuel			5,000	30 00
8	Barrett George	11,000	66 00		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
9	Barrett Nathaniel A.	9,000	54 00	2,000	12 00
9	Ballard John	52,000	312 00	55,000	330 00
10	Ballard Joseph	63,500	381 00	15,000	90 00
11	Ballard Joseph A.	7,800	46 80	800	4 80
8	Ballister Joseph & Co.			15,000	90 00
5	Barry Henry	5,000	30 00		
5	Barry William	5,000	30 00		
8	Barry & Brother			8,000	48 00
9	Barry Thomas	20,000	120 00	400	2 40
11	Barry James	8,400	50 40	600	3 60
1	Bartlett Theodore	5,500	33 00	400	2 40
1	Bartlett Daniel, jr.	12,000	72 00	3,000	18 00
1	Bartlett James	67,100	402 60	1,000	6 00
2	Bartlett E. & W.			6,000	36 00
3	Bartlett Joseph H. & Co.	28,000	168 00	5,000	30 00
4	Bartlett Enoch	7,600	45 60		
4	Bartlett Levi & Co.			20,000	120 00
5	Bartlett George			5,000	30 00
6	Bartlett Sidney			40,000	240 00
7	Bartlett Thomas	39,000	234 00	25,000	150 00
6	Bartol Cyrus A.	18,000	108 00	7,000	42 00
2	Bass George	6,200	37 20	1,000	6 00
4	Bass Moses	4,600	27 60	200	1 20
10	Bass Henry, heirs	34,000	204 00		
1	Bassett Joseph	8,600	51 60	2,000	12 00
7	Bassett Francis			30,000	180 00
3	Batchelder Daniel K.	5,000	30 00		
5	Batchelder Greenleaf C.	21,000	126 00	1,000	6 00
1	Bates Martin	6,000	36 00	6,000	36 00
2	Bates Martin & Son	1,600	9 60	40,000	240 00
2	Bates & Co.			60,000	360 00
3	Bates Ezekiel	17,800	106 80		
4	Bates John	8,000	48 00	600	3 60
5	Bates Charles	5,000	30 00		
6	Bates John D. and others	5,000	30 00		
6	Bates John D.	18,000	108 00	40,000	240 00
6	Bates Edward C.			10,000	60 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
7	Bates Joseph L.	4,000	24 00	5,000	30 00
7	Bates, Turner & Co.			60,000	360 00
9	Bates Joseph C.	7,000	42 00		
9	Bates George	18,000	108 00	1,300	7 80
9	Bates Samuel	5,000	30 00		
10	Bates John A.	6,000	36 00		
9	Batterman George, heirs	12,000	72 00		
9	Baury Mary	27,400	164 40		
2	Baxter Joseph G.	4,000	24 00	10,000	60 00
4	Baxter Elizabeth	54,400	326 40		
8	Baxter & Brothers			10,000	60 00
8	Baxter Sarah and others	9,000	54 00		
10	Baxter Sarah, jr.	26,800	160 80	20,000	120 00
10	Baxter Daniel, heirs	53,500	321 00		
10	Baxter Albert G.	8,200	49 20	400	2 40
5	Bayley Thomas J.	6,000	36 00	3,000	18 00
7	Bayley Richard W.	21,000	126 00	25,000	150 00
5	Baylies William G.			6,000	36 00
6	Baylies Edmund	18,000	108 00		
3	Beal William L.	5,000	30 00	1,000	6 00
3	Beal Lydia	6,000	36 00		
4	Beal Henry	8,000	48 00	15,000	90 00
4	Beal Samuel	8,000	48 00	10,000	60 00
5	Beal Benjamin	4,500	27 00		
5	Beal David, heirs	5,000	30 00		
6	Beal Madison	17,800	106 80		
3	Beals Samuel	12,600	75 60		
4	Beals William	20,000	120 00	8,000	48 00
7	Beals & Greene			15,000	90 00
10	Bean Aaron H.	3,600	21 60	2,400	14 40
10	Beck Frederick, heirs				
3	Beckwith George C.	6,000	36 00		
3	Beebe James M. & Co.			45,000	270 00
4	Beebe James M.	12,000	72 00		
5	Beecher Laban S.	8,400	50 40		
7	Belknap John	55,000	330 00	50,000	300 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
7	Belknap Andrew E.	6,000	36 00	15,000	90 00
4	Bellamy William			8,000	48 00
1	Bell Edward	9,200	55 20	400	2 40
4	Bell & Richards			6,000	36 00
9	Bell Joseph	18,000	108 00	50,000	300 00
2	Bellows John, heirs	59,000	354 00		
7	Bemis Samuel A.	5,000	30 00	7,000	42 00
9	Bemis Luke, jr.	5,600	33 60	5,000	30 00
6	Benjamin Asher	11,400	68 40	1,500	9 00
1	Bennett Joshua	63,100	378 60		
2	Bennett James H. & Co.			8,000	48 00
7	Bennoch & Fogg			6,000	36 00
4	Benson & Hamblen			5000	30 00
6	Bent John P.	4,800	28 80		
7	Bent Ann	11,000	66 00		
8	Bent Samuel W. & Co.			18,000	108 00
8	Bent, Lord & Lynes			5,000	30 00
12	Bent Adam	4,200	25 20		
4	Besson Jonas	4,600	27 60		
7	Bethune George	36,000	216 00		
11	Bickum John K.	11,000	66 00		
2	Bigelow & Gibson			7,000	42 00
4	Bigelow Josiah	6,000	36 00		
4	Bigelow & Brothers			10,000	60 00
5	Bigelow John	8,000	48 00		
7	Bigelow Alpheus	51,400	308 40		
7	Bigelow George T.	2,000	12 00	20,000	120 00
7	Bigelow Jacob	23,000	138 00	18,000	108 00
8	Bigelow & Greenwood			15,000	90 00
10	Bigelow John P.	5,000	30 00	2,000	12 00
8	Billings Bradish	7,200	43 20		
8	Billings & Marsh			10,000	60 00
9	Billings William G.	9,000	54 00		
9	Bingaman Adam L.	10,000	60 00		
8	Bingham & Tapley			10,000	60 00
4	Binney Amos, heirs	109,400	656 40		
5	Binney Matthew	9,000	54 00		
6	Binney Hannah	5,400	32 40		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
6	Binney Amos	75,600	453 60	30,000	180 00
4	Bird J. A. & W. & Co.			12,000	72 00
4	Bird Harrison			6,000	36 00
5	Bird George	5,600	33 60		
5	Bird Jesse	13,000	78 00		
7	Bird William			5,000	30 00
10	Bird Robert L.	8,600	51 60	600	3 60
12	Bird John H., heirs	7,800	46 80		
1	Bishop Nathaniel H.	21,000	126 00		
10	Bixby Montgomery	5,600	33 60	1,400	8 40
9	Black George N. & Co.			12,000	72 00
2	Blake George, heirs	32,900	197 40		
4	Blake Sarah,	121, 200	727 20	50,000	300 00
4	Blake J. Quincy	13,500	81 00	2,000	12 00
4	Blake James G.	23,000	138 00		
4	Blake George T.	6,000	36 00		
5	Blake William	7,500	45 00		
7	Blake Edward			11,000	66 00
7	Blake Charles	60,000	360 00		
7	Blake James	14,000	84 00	20,000	120 00
7	Blake George B. & Co.			60,000	360 00
8	Blake & Trumbull			6,000	36 00
8	Blake & Cartwright			5,000	30 00
9	Blake Joshua, heirs	13,000	78 00		
11	Blake James	7,000	42 00		
11	Blake Mary	5,000	30 00	6,000	36 00
12	Blake Samuel	23,000	138 00	12,000	72 00
2	Blanchard Andrews	5,000	30 00	3,000	18 00
4	Blanchard Edward	41,000	246 00	23,000	138 00
4	Blanchard Edward,	41,000	246 00	23,000	138 00
4	Blanchard John A.	18,500	111 00		
4	Blanchard Noah	10,000	60 00	35,000	210 00
4	Blanchard William			5,000	30 00
4	Blanchard Mary, heirs	8,700	52 20		
5	Blanchard Abraham W.	8,500	51 00	2,000	12 00
6	Blanchard Abigail	5,000	30 00		
7	Blanchard Wm. E. & Co.			6,000	36 00
7	Blanchard Edward and others	15,000	90 00		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
8	Blanchard, Converse & Co.			40,000	240 00
8	Blanchard Joshua and others	7,000	42 00		
9	Blanchard Jedediah	5,400	32 40	3,000	18 00
9	Blanchard Charles	8,600	51 60		
9	Blanchard C., and J. Homans, trustees	6,000	36 00		
10	Blanchard Richard	5,200	31 20		
12	Blanchard John W.	5,600	33 60		
6	Blaney Ambrose	5,200	31 20		
7	Blaney Henry	21,600	129 60		
9	Blaney James M.	9,000	54 00	10,000	60 00
10	Blaney Benjamin			5,000	30 00
9	Blashfield William H.	5,000	30 00	1,000	6 00
10	Blashfield Harvey			5,000	30 00
9	Blasland Thomas, heirs	8,200	49 20		
4	Bliss Seth	10,000	60 00	600	3 60
9	Bliss Levi	11,000	66 00	8,000	48 00
8	Blodgett John W. & Co.			25,000	150 00
15	Blood & Gipson	4,500	27 00	600	3 60
5	Bluxome Joseph	3,000	18 00	2,000	12 00
4	Boardman Benj. G., jr.	8,000	48 00		
4	Boardman Thankful, heirs	5,000	30 00		
5	Boardman Benjamin G.	9,300	55 80		
7	Boardman William H., heirs	30,900	185 40		
7	Boardman Mary W.	8,000	48 00	11,000	66 00
8	Boardman Edward A.			10,000	60 00
8	Boardman William H.	30,800	184 80	9,000	54 00
8	Boardman William H., as receiver			14,000	84 00
9	Boies Jeremiah S.	32,000	192 00	13,000	78 00
10	Boies Artemas	4,600	27 60		
1	Boles John	23,000	138 00	1,000	6 00
5	Boles Levi	14,200	85 20		
8	Boman John	7,600	45 60		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
7	Bond, Wyman & Arklay			13,000	78 00
3	Boott Cotton Mills	22,800	136 80		
4	Boott Francis			5,090	30 00
4	Boott Mary	45,000	270 00	20,000	120 00
4	Boott John W.	1,200	7 20	5,000	30 00
4	Bordman Lydia	77,000	462 00		
7	Borland John	60,600	363 60	55,000	33 00
9	Borrowscale Joseph	8,200	49 20		
11	Borrowscale John	5,200	31 20	1,000	6 00
4	Boss Isaac	4,000	24 00	600	3 60
2	Boston Marine Railway	70,000	420 00		
4	Boston Bank	60,000	360 00		
4	Boston and Lowell Railroad	120,000	720 00		
6	Boston and Roxbury Mill Dam Corporation	12,000	72 00		
6	Boston Water Power Co.	90,600	543 60	4,000	24 00
6	Boston Hemp Manufacturing Co.	10,000	60 00	10,000	60 00
7	Boston Type and Stereotype Foundry			50,000	300 00
7	Boston Gas Light Co.	83,000	498 00	175,000	1,050 00
8	Boston Exchange Co.	250,000	1,500 00		
8	Boston and Sandwich Glass Co.	13,000	78 00		
10	Boston and Worcester Railroad Corporation	380,000	2,280 00		
11	Boston and Providence Railroad Corporation	94,000	564 00		
12	Boston Beer Co.	13,500	81 00	8,000	48 00
12	Boston Wharf Co.	40,000	240 00		
5	Bosworth & Pratt			12,000	72 00
4	Bourne Ezra A.			75,000	450 00
11	Bourne Abner, heirs	5,000	30 00		
1	Bouvé Ephraim O.	4,000	24 00	400	2 40
4	Bowditch Nathaniel I.			35,000	210 00
4	Bowditch Nathaniel I., ex'r			15,000	90 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
4	Bowditch J. Ingersoll, ex'r			150,000	900 00
6	Bowditch & Amory, trustees	18,000	108 00		
9	Bowditch J. Ingersoll	17,400	104 40		
9	Bowditch Nathaniel, heirs	13,000	78 00		
4	Bowdlear S. G. & Co.			7,000	42 00
5	Bowen Charles	13,800	82 80	400	2 40
4	Bowers & Pratt			5,000	30 00
5	Bowers Charles	6,000	36 00	1,000	6 00
5	Bowers Levi	6,900	41 40		
4	Bowker Albert	10,500	63 00	1,000	6 00
6	Bowker Howard	4,600	27 60		
6	Bowker Lazarus	4,000	24 00	400	2 40
8	Bowker Joel, jr. & Co.			8,000	48 00
9	Bowker Joel, jr.	4,000	24 00		
3	Bowman Abner H. & Co.			24,000	144 00
4	Bowman Abner H.	35,000	210 00	40,000	240 00
4	Bowman & Eaton			5,000	30 00
5	Bowman Francis	5,000	30 00		
4	Boyd James & Son			15,000	90 00
8	Boyd Thomas	5,000	30 00		
8	Boyd James	8,500	51 00		
8	Boyd & Frothingham			8,000	48 00
7	Boyden Simeon, heirs	7,000	42 00		
9	Boyden William C. and others	7,600	45 60		
7	Boyle John, heirs	17,000	102 00		
4	Boylston Ward N., heirs	71,000	426 00		
9	Boylston Fire and Marine Insurance Co.	34,000	204 00		
9	Boylston Thomas			5,000	30 00
10	Boylston Baptist Society	7,000	42 00		
1	Boynton Perkins	9,000	54 00	2,000	12 00
3	Boynton David A.	3,600	21 60	800	4 80
4	Boynton & Woodford			25,000	150 00
7	Brackett Jeffrey R.			6,000	36 00
10	Brackett Lemuel	12,600	75 60		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
10	Brackett Samuel E	6,000	36 00	5,000	30 00
11	Brackett Rufus			5,000	30 00
7	Bradbury Charles	25,000	150 00	30,000	180 00
4	Bradford Joseph N.	10,000	60 00	1,000	6 00
4	Bradford Sarah	18,000	108 00		
6	Bradford John			5,000	30 00
9	Bradford William B.			5,000	30 00
9	Bradford Hannah	4,400	26 40		
11	Bradford Le Baron			6,000	36 00
11	Bradford Thomas	12,600	75 60	400	2 40
3	Bradlee Josiah P.	6,000	36 00		
4	Bradlee David, heirs	33,000	198 00		
4	Bradlee Joseph P. & Co.			10,000	60 00
4	Bradlee Edmund F.	800	4 80	12,000	72 00
7	Bradlee Frederick H.	24,000	144 00		
7	Bradlee Josiah	38,600	231 60	63,000	378 00
7	Bradlee J. Bowdoin			8,000	48 00
7	Bradlee John W.	18,000	108 00	175,000	1,050 00
7	Bradlee Samuel	29,000	174 00	50,000	300 00
7	Bradlee Samuel, trustee	17,000	102 00	10,000	60 00
7	Bradlee Rebecca	18,000	108 00	7,000	42 00
8	Bradlee David W., heirs	17,000	102 00		
8	Bradlee Josiah & Co.			200,000	1,200 00
9	Bradlee John R.			5,000	30 00
4	Bradley J. N. & Co.			5,000	30 00
5	Bradley Benjamin	3,500	21 00	5,000	30 00
8	Bradley Charles			5,000	30 00
9	Bradley Mary	12,000	72 00	80,000	480 00
9	Bradish Levi J.			10,000	60 00
1	Bradshaw Samuel C.	10,400	62 40	1,000	6 00
10	Bradshaw Andrew			5,000	30 00
10	Braynard John H.	17,000	102 00	200	1 20
6	Braman Jarvis	5,400	32 40	2,000	12 00
3	Bramhall Elbridge	7,800	46 80	400	2 40
4	Bramhall & Howe			15,000	90 00
9	Bramhall William	6,400	38 40		
5	Brandise Philip			5,000	30 00
2	Breck Joseph & Co.			5,000	30 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
5	Breed John	28,000	168 00	2,000	12 00
10	Breed Horace A.	5,800	34 80	1,000	6 00
7	Brewer John R.	7,400	44 40		
8	Brewer Nathaniel, heirs	8,400	50 40		
9	Brewer Gardner	122,800	736 80	25,000	150 00
11	Brewer Isaac C.	2,200	13 20	6,000	36 00
7	Brewers, Stevens & Cushing			25,000	150 00
3	Brewster Osmyn	7,000	42 00		
4	Brewster John & Co.			5,000	30 00
5	Brewster John	5,500	33 00		
7	Brewster Oliver			5,000	30 00
4	Brickett Alonzo B.	10,000	60 00		
4	Bridge Joseph, heirs	9,000	54 00		
4	Briggs Enos			7,000	42 00
6	Briggs Charles M.	2,800	16 80	2,000	12 00
6	Briggs Billings	14,200	85 20		
9	Briggs Hepzibah	5,600	33 60		
3	Brigham Benajah	29,600	177 60	12,000	72 00
4	Brigham Peter B.	4,000	24 00	8,000	48 00
4	Brigham Aaron & Son			12,000	72 00
5	Brigham Aaron	6,500	39 00		
6	Brigham William A.	3,000	18 00	2,000	12 00
7	Brigham Charles L.	5,000	30 00	1,200	7 20
7	Brigham Peter	8,800	52 80		
7	Brigham Levi	23,000	138 00	7,000	42 00
7	Brigham Levi, executor			15,000	90 00
8	Brigham & Sargent			7,000	42 00
8	Brigham Elisha	10,400	62 40		
9	Brigham Nahum	8,000	48 00	2,000	12 00
11	Brigham William	5,000	30 00	2,000	12 00
5	Bright John, heirs	8,500	51 00		
5	Brimmer Andrew, heirs	30,000	180 00		
5	Brimmer Martin, heirs	244,000	1,464 00		
6	Brimmer Martin	24,000	144 00	17,000	102 00
6	Brimmer Eliza O.			12,000	72 00
4	Brinley Edward			25,000	150 00
4	Brinley George	24,600	147 60		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
7	Broadhurst Wm., agent			5,000	30 00
7	Brodhead Daniel D.	3,000	18 00	3,000	18 00
2	Brooks William P. B.			6,000	36 00
2	Brooks & Saunders			6,000	36 00
4	Brooks Charles & Co.	4,400	26 40	28,000	168 00
5	Brooks Lucien B.	31,400	188 40		
7	Brooks Charles	12,500	75 00	2,000	12 00
7	Brooks Rufus F. & Co.	13,500	81 00	1,500	9 00
8	Brooks Peter C. jr.			25,000	150 00
9	Brooks Edward	25,000	150 00	45,000	270 00
9	Brooks Charles			14,000	84 00
9	Brooks Peter C.	635,900	3,815 40	400,000	2,400 00
12	Brooks Noah and J. Pickering, trustees			8,000	48 00
12	Brooks Noah, trustee parish fund			4,400	26 40
12	Brooks Noah	12,300	73 80	1,000	6 00
1	Brown Josiah	14,700	88 20	400	2 40
2	Brown Elbridge			5,000	30 00
2	Brown Samuel H. & Co.			5,000	30 00
2	Brown Beal & Co.			5,000	30 00
2	Brown C. Allen	2,000	12 00	5,000	30 00
2	Brown Benjamin, heirs	8,000	48 00		
2	Brown Albert H.	5,400	32 40	1,500	9 00
3	Brown Josiah and F. Gould	10,000	60 00		
4	Brown John,	17,000	102 00		
4	Brown Cornelia D. S.	18,000	108 00		
4	Brown Stephen			10,000	60 00
5	Brown Francis	4,500	27 00	3,000	18 00
5	Brown Timothy	12,500	75 00		
5	Brown Levi	10,200	61 20	1,000	6 00
6	Brown Valentine O. B. heirs	4,800	28 80		
6	Brown & Sevrence			7,000	42 00
6	Brown John, heirs	10,000	60 00		
6	Brown John B.	5,600	33 60	2,000	12 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
6	Brown Charles	6,000	36 00	1,400	8 40
6	Brown Nancy	4,400	26 40		
7	Brown Frederick	4,600	27 60	2,500	15 00
7	Brown John E.	5,000	30 00	1,000	6 00
7	Brown & Stickney			5,000	30 00
8	Brown Wm. A. jr. & Co.			20,000	120 00
8	Brown Augustus			7,000	42 00
8	Brown Daniel A.			16,000	96 00
9	Brown Charles	7,000	42 00	14,000	84 00
9	Brown Charles H.	9,800	58 80	10,000	60 00
10	Brown William P.	4,600	27 60		
10	Brown John S.	18,800	112 80	8,000	48 00
10	Brown William	24,600	147 60	7,000	42 00
11	Brown Mary	12,800	76 80		
11	Brown J. E. & N.	31,800	190 80	1,000	6 00
11	Brown Jonathan	18,800	112 80	600	3 60
11	Brown Charles	7,000	42 00	600	3 60
11	Brown William, heirs	10,000	60 00		
9	Browne J. Vincent	3,200	19 20	5,000	30 00
9	Browne George	5,000	30 00	5,000	30 00
4	Brownell Gilbert	7,000	42 00	12,000	72 00
7	Brownell & Brother			5,000	30 00
4	Bruce Calvin	4,000	24 00	1,500	9 00
9	Bruce Thomas, heirs	17,000	102 00		
2	Bryant & Sturgis	25,900	155 40	400,000	2,400 00
6	Bryant John, jr.	12,000	72 00	85,000	510 00
6	Bryant John	93,800	562 80		
7	Bryent Ann, heirs	5,500	33 00		
7	Bryent & Herman	27,500	165 00	12,000	72 00
9	Bryent Walter	9,400	56 40		
2	Buckley Abigail, heirs	5,600	33 60		
1	Bucknam John C.	3,200	19 20	2,000	12 00
2	Budd Nathaniel	8,400	50 40		
11	Bugbee Edward	5,000	30 00	400	2 40
5	Bullard Eleazer	6,000	36 00		
5	Bullard Charles	5,500	33 00	5,000	30 00
8	Bullard, Lee & Co.			20,000	120 00
9	Bullard L. and H. Beal	5,000	30 00		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
9	Bullard Lewis			10,000	60 00
9	Bullard Calvin			6,000	36 00
10	Bullard Jabez	10,600	63 60		
10	Bullard Charlotte G.	13,600	81 60		
11	Bullard & Carter			5,000	30 00
4	Bumstead Josiah	35,800	214 80		
7	Bumstead Josiah & Son			16,000	96 00
7	Bumstead John	106,400	638 40		
7	Bumstead Sarah	10,400	62 40		
7	Bumstead Joseph, heirs	7,000	42 00		
5	Bunten Robert	8,100	48 60	1,000	6 00
8	Burchsted Benjamin	6,000	36 00		
3	Burditt Mary, heirs	5,600	33 60		
8	Burditt & Lewis			10,000	60 00
6	Burgess Benjamin F.	10,000	60 00		
6	Burgess Benjamin	11,000	66 00	8,000	48 00
7	Burgess Abigail B.	76,200	457 20		
8	Burgess Benj. & Sons	6,600	39 60	65,000	390 00
9	Burgess William G.	38,400	230 40	5,000	30 00
11	Burlingame Benjamin	12,200	73 20	1,200	7 20
4	Burnham Tho's O. H. P.	19,000	114 00	30,000	180 00
5	Burnham Arthur	7,900	47 40	200	1 20
4	Burr Robert	20,000	120 00	2,500	15 00
5	Burr Theophilus	4,600	27 60	1,000	6 00
11	Burr Freeman F.	4,200	25 20		
9	Burrage William	9,000	54 00	10,000	60 00
3	Burrill John	4,500	27 00	400	2 40
10	Burroughs George	19,000	114 00	100,000	600 00
8	Burton Hazen J. & Co.			8,000	48 00
9	Burton Hazen J.	9,600	57 60		
11	Burton William	4,600	27 60		
8	Bush Jotham	11,400	68 40		
10	Buss Asaph E.	2,600	15 60	4,000	24 00
9	Bussey Benjamin, heirs	97,800	586 80		
4	Butler Henry T.	5,400	32 40	3,000	18 00
4	Butler Benjamin F.	4,000	24 00	2,000	12 00
5	Butler James			20,000	120 00
10	Butler Nathaniel	7,000	42 00		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
3	Butterfield Isaac	8,800	52 80		
1	Buttrick Abiel	4,800	28 80		
4	Buttrick & Cobb			8,000	48 00
4	Buttrick & Patch	4,000	24 00	6,000	36 00
7	Cabot Samuel	40,500	243 00		
9	Cabot Richard C.	8,600	51 60	5,000	30 00
9	Cabot Henry			30,000	180 00
2	Cabot Caffield	3,400	20 40	2,000	12 00
8	Cain Elizabeth, heirs	6,000	36 00		
12	Cains Thomas	11,400	68 40	25,000	150 00
9	Callahan Mary	4,400	26 40		
3	Callender William B.	7,000	42 00	10,000	60 00
7	Callender Mary, heirs	23,000	138 00		
8	Callender William			11,000	66 00
8	Callender Richard B. & Son			15,000	90 00
8	Callender George			25,000	150 00
9	Callender Richard B.	10,000	60 00		
9	Callender Benjamin	9,000	54 00		
3	Campbell John M.	10,500	63 00		
3	Cannavan Michael	5,000	30 00	400	2 40
4	Capen Phineas	4,600	27 60	400	2 40
7	Capen & Lyon	6,500	39 00	1,000	6 00
9	Capen Samuel C.	4,000	24 00	5,000	30 00
10	Capen Josiah	6,000	36 00		
8	Carleton Hannah	10,600	63 60		
9	Carleton William	7,400	44 40	8,000	48 00
11	Carleton Guy			5,000	30 00
7	Carlton William L.	25,600	153 60		
9	Carlton Isaac, heirs	8,000	48 00		
2	Carney & Sleeper			60,000	360 00
9	Carney Andrew	158,200	949 20		
4	Carruth Nathan	20,000	120 00		
4	Carruth N. & C. & Co.			40,000	240 00
8	Carruth Francis S.	6,000	36 00	25,000	150 00
2	Carter Chandler	11,800	70 80		
4	Carter Ebenezer			5,000	30 00
6	Carter John H.	4,000	24 00	1,000	6 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
6	Carter Richard B.	6,000	36 00		
7	Carter Thomas and others	19,000	114 00		
7	Carter James W. & Brother			6,000	36 00
7	Carter Timothy H. & Co.			5,000	30 00
7	Carter Timothy H.	5,000	30 00		
9	Carter James	18,400	110 40	8,000	48 00
9	Carter James W.	8,000	48 00		
10	Carter Thomas	15,000	90 00	2,000	12 00
10	Carter Elisha	5,000	30 00		
11	Carter & Willard	4,400	26 40		
4	Cartwright Charles W.	16,000	96 00	20,000	120 00
10	Cartwright Cha's W. and T. Tarbell, trustees	5,400	32 40		
4	Cary Isaac H. & Co.	44,800	268 80		
4	Cary Isaac H.	11,400	68 40	3,000	18 00
7	Cary George B.	18,000	108 00		
7	Cary Thomas G.	15,000	90 00	5,000	30 00
10	Cavanagh William P.	5,400	32 40		
11	Center Joseph H.	4,600	27 60	400	2 40
8	Chace, Grew & Co.			60,000	360 00
8	Chace Daniel K.			15,000	90 00
8	Chace & Grew	30,000	180 00		
2	Chadbourn & Libbey			6,000	36 00
8	Chadbourn Seth	11,300	67 80	1,000	6 00
7	Chaddock Ebenezer N.	8,000	48 00		
4	Chadwick Ebenezer	85,900	515 40	30,000	180 00
4	Chadwick Eben'r, trustee			13,000	78 00
7	Chadwick Clarissa	5,000	30 00		
7	Chadwick Ebenezer and B. Gorham	11,000	66 00		
6	Chaffee George A.	3,600	21 60	2,600	15 60
7	Chaffin Darwin			5,000	30 00
2	Chamberlain Benj. P.	9,000	54 00	3,000	18 00
3	Chamberlain & Foster	23,000	138 00	4,000	24 00
3	Chamberlain Andrew L.	10,000	60 00		
5	Chamberlain Cephas C.	6,500	39 00	5,000	30 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
1	Chamberlin Edward	4,400	26 40		
8	Chamberlin, Whitney & Co.			12,000	72 00
9	Chamberlin David	6,000	36 00	400	2 40
4	Chandler Abiel	7,300	43 80		
5	Chandler Isaac	9,200	55 20	10,000	60 00
7	Chandler Adoniram	11,000	66 00		
7	Chandler & Greenleaf	10,000	60 00		
8	Chandler, Howard & Co.			100,000	600 00
9	Chandler John			12,000	72 00
9	Chanley Michael	7,600	45 60		
6	Channing Wm. E., heirs	18,000	108 00		
7	Channing Walter	15,000	90 00	2,000	12 00
2	Chapin M. & C.			9,500	57 00
4	Chapin Charles H. G.	6,000	36 00		
5	Chapin Mason J.	4,400	26 40		
4	Chapman George H. & Co.			8,000	48 00
4	Chapman & Peirce			7,000	42 00
6	Chapman Jonathan, heirs	12,000	72 00		
9	Chapman Henry	9,400	56 40	50,000	300 00
10	Chapman Jonathan	20,000	120 00	35,000	210 00
10	Chapman Jonathan, trustee	34,600	207 60	20,000	120 00
10	Chapman J., & O. Goodwin, trustees			9,000	54 00
10	Chapman Jonathan, agent for Carnes	12,000	72 00		
3	Chapouil Anthony	11,000	66 00		
6	Chase Caleb	18,000	108 00		
6	Chase Theodore	9,000	54 00	45,000	270 00
8	Chase Chauncy	6,000	36 00	1,000	6 00
8	Chase, Kimball & Co.			16,000	96 00
4	Cheever James	47,600	285 60	20,000	120 00
10	Cheever Joshua, heirs	5,800	34 80		
3	Chessman Samuel, heirs	14,200	85 20		
3	Chever Simon G.	5,500	33 00		
7	Chickering Jonas	60,000	360 00	35,000	210 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
7	Child Joshua	20,000	120 00		
8	Child David W., heirs	33,200	199 20		
8	Child Luke C.			5,000	30 00
9	Child Abigail	38,000	228 00		
10	Child Elizabeth	25,400	152 40	50,000	300 00
1	Chilson Gardner	23,700	142 20	5,000	30 00
7	Choate Rufus			5,000	30 00
8	Churchill Peleg	18,600	111 60	5,000	30 00
8	City Bank	109,400	656 40	20,800	124 80
2	Claflin Lee			10,000	60 00
1	Clapp Frederick	3,600	21 60	4,000	24 00
4	Clapp Otis & Co.			5,000	30 00
7	Clapp William W.	17,000	102 00		
10	Clapp Mary F.	7,000	42 00		
11	Clapp Samuel, jr.	10,600	63 60		
12	Clapp Elisha, heirs	4,300	25 80		
1	Clark Thomas J.	6,800	40 80	1,200	7 20
1	Clark Bradley M.	15,500	93 00		
2	Clark Benjamin	12,000	72 00	30,000	180 00
2	Clark Benjamin C. & Co.			60,000	360 00
3	Clark Simpson, heirs	10,800	64 80		
4	Clark J. W. & Co.			5,000	30 00
5	Clark James	14,800	88 80		
5	Clark Joseph	8,000	48 00	5,000	30 00
6	Clark Jonas W.	4,500	27 00	400	2 40
6	Clark John	21,000	126 00	2,000	12 00
6	Clark Benjamin C.	30,000	180 00	6,000	36 00
9	Clark Calvin W.	8,000	48 00	30,000	180 00
10	Clark Moses	31,000	186 00	5,000	30 00
10	Clark James W.			5,000	30 00
10	Clark William R.	4,800	28 80	2,200	13 20
8	Clarke Edward	20,000	120 00		
9	Clarke John	5,000	30 00		
1	Clement Rodney	4,000	24 00	400	2 40
8	Clement, Salisbury & Wildes			20,000	120 00
8	Clement & Cobb			5,000	30 00
8	Cleveland H. R.	20,000	120 00		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
9	Cleveland Aaron P., heirs	26,000	156 00		
4	Clifton John	6,000	36 00	1,000	6 00
10	Clough Willard	8,400	50 40	200	1 20
6	Clouston Robert H.	6,500	39 00	400	2 40
4	Cobb Benjamin, heirs	15,400	92 40		
7	Cobb Matthew	6,000	36 00	11,000	66 00
8	Cobb Nath'l R., heirs	22,000	132 00		
11	Cobb Samuel, heirs	12,000	72 00		
1	Coburn Thomas, heirs	5,000	30 00		
4	Coburn Daniel J.	6,000	36 00	1,000	6 00
8	Coburn Henry R.			5,000	30 00
6	Cochran Mary	10,000	60 00		
7	Cochran Samuel Q.	6,000	36 00	10,000	60 00
2	Codman Stephen			10,000	60 00
4	Codman Stephen, heirs	8,000	48 00		
4	Codman Francis and others	15,000	90 00		
4	Codman Henry, trustee	16,000	96 00		
4	Codman George and others	72,000	432 00		
4	Codman John	84,000	504 00		
6	Codman Abigail	6,000	36 00		
6	Codman Charles R.	158,000	948 00	40,000	240 00
7	Codman Henry	305,400	1,832 40		
7	Codman Henry, trustee	16,000	96 00		
8	Codman Edward & Co.			25,000	150 00
10	Codman Francis	31,000	186 00	1,000	6 00
4	Coffin & Jacobs			8,000	48 00
7	Coffin George W.	73,000	438 00	3,000	18 00
8	Coffin Peter, heirs	5,000	30 00		
8	Coffin William E. & Co.			8,000	48 00
8	Coffin & Weld			5,000	30 00
9	Coffin William	10,400	62 40	3,000	18 00
9	Coffin Margaret	68,000	408 00		
11	Coffin Aaron	20,200	121 20	400	2 40
3	Cofran James	21,000	126 00	3,000	18 00
8	Coindreau Alphonse			5,000	30 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
9	Coit Daniel T.			6,000	36 00
7	Colburn George W.	5,000	30 00		
10	Colburn Samuel	4,400	26 40		
5	Colby Johnson	4,000	24 00	200	1 20
7	Colby & Lyman			10,000	60 00
8	Colby Gardner & Co.			40,000	240 00
1	Cole Oliver	4,600	27 60	800	4 80
5	Cole William	7,000	42 00	8,000	48 00
7	Cole Thomas	16,000	96 00		
3	Coles Isaac U.	15,000	90 00		
2	Collamore John H.			6,000	36 00
2	Collamore Gilman	16,000	96 00		
3	Collamore George W.	29,900	179 40	600	3 60
7	Collamore John, jr. & Co.	18,000	108 00	18,500	111 00
9	Collamore John, jr.	12,000	72 00	20,000	120 00
3	Collins Ebenezer	7,000	42 00	40,000	240 00
4	Collins Benjamin	12,900	77 40	400	2 40
11	Comerford Patrick	5,200	31 20	400	2 40
5	Comins Paschal B.	4,000	24 00	200	1 20
2	Commercial Wharf Corporation	450,000	2,700 00		
1	Conant Albert F., heirs	5,500	33 00		
4	Conant Josiah F.	4,400	26 40	5,000	30 00
12	Coney Jabez	15,000	90 00	5,000	30 00
6	Conkey Martha	5,000	30 00		
12	Conley Charles C.	7,700	46 20	400	2 40
9	Constant Victor	10,000	60 00	3,000	18 00
8	Converse James W.	5,000	30 00		
10	Converse Benjamin	3,400	20 40	1,600	9 60
4	Cook George T.	6,600	39 60		
9	Cook Charles Edward	10,600	63 60	2,000	12 00
9	Cook Josiah P.	23,000	138 00	30,000	180 00
9	Cook Josiah P., executor and trustee	62,800	376 80	10,000	60 00
10	Cook Israel, heirs	5,000	30 00		
10	ook James M.	7,600	45 60		
4	Coolidge Cornelius, heirs	4,600	27 60		

Ward.	NAMES	Real.	Amount.	Personal.	Amount.
4	Coolidge John T.	12,000	72 00	20,000	120 00
5	Coolidge Jonas	4,600	27 60	9,000	54 00
7	Coolidge & Haskell			25,000	150 00
8	Coolidge Anna S.	30,000	180 00		
8	Coolidge Joseph	49,600	297 60		
10	Coolidge Lemuel A.	6,000	36 00	2,000	12 00
2	Coombs Reuben	9,400	56 40	800	4 80
10	Coombs Philip	7,200	43 20		
10	Cooper Elizabeth	5,000	30 00		
5	Copeland Daniel	5,200	31 20	400	2 40
11	Copeland Elisha	6,000	36 00		
7	Copenhagen Arnold	13,000	78 00		
11	Copland Seth	6,600	39 60	400	2 40
6	Cordis Thomas	79,700	478 20	20,000	120 00
6	Cordis Thomas, guardian			5,000	30 00
3	Corey Nathan	5,000	30 00		
10	Corey Elijah	22,500	135 00		
5	Corlew Elijah J. S.	5,000	30 00	1,200	7 20
11	Cornell Walter	20,800	124 80		
2	Cotting Amos	5,200	31 20		
5	Cotting Charles C.	3,800	22 80	2,000	12 00
7	Cotting Amos, trustee			50,000	300 00
8	Cotton John, heirs	9,800	58 80		
8	Cotton, Hill & Co.	6,000	36 00	50,000	300 00
9	Cotton Joseph	34,600	207 60		
9	Cotton Joseph H.	7,400	44 40		
4	Coverly Samuel	15,100	90 60		
5	Coverly Edward	23,000	138 00	5,000	30 00
1	Cowdin & Brother	4,400	26 40	5,000	30 00
5	Cowdin John	12,200	73 20		
11	Cowdin Robert	8,500	51 00	6,000	36 00
11	Cowdin Zebiah	12,000	72 00		
11	Cowing Howland	5,000	30 00		
2	Cox Francis			5,000	30 00
12	Crafts John W.	2,000	12 00	5,000	30 00
4	Crane & Taggard			12,000	72 00
9	Crane Joshua	26,600	159 60		
12	Crane Horatio N.	6,000	36 00	400	2 40

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
12	Crane Larra	18,000	108 00	16,000	96 00
4	Crawley Daniel	10,800	64 80		
7	Crease William W.	46,000	276 00	800	4 80
10	Crego Hiram	5,200	31 20	200	1 20
5	Crehore & Neal	6,300	37 80		
9	Crehore Thomas	59,800	358 80	25,000	150 00
11	Crehore William	8,400	50 40	600	3 60
11	Crehore Isaac N.	4,400	26 40		
4	Cremer Benjamin	11,600	69 60		
4	Crocker & Brewster	16,400	98 40	25,000	150 00
5	Crocker Uriel	21,300	127 80	10,000	60 00
8	Crocker & Gray			10,000	60 00
10	Crocker Thomas	5,000	30 00		
4	Crockett George W.	21,000	126 00	45,000	270 00
5	Crombie Benjamin	53,900	323 40	500	3 00
11	Crooker Hezekiah B.	17,900	107 40		
3	Crosby & Loomis			5,000	30 00
4	Crosby Alonzo	5,500	33 00	2,000	12 00
5	Crosby Frederick	8,400	50 40	2,500	15 00
5	Crosby Loammi	7,600	45 60	1,000	6 00
8	Crosby Kendall	8,000	48 00	3,000	18 00
4	Crowninshield Benj. W.	152,200	913 20	130,000	780 00
4	Crowninshield Francis B.			18,000	108 00
6	Crowninshield Edw'd A.			5,000	30 00
6	Crowninshield John, heirs	5,600	33 60		
6	Crowninshield George C.			14,000	84 00
7	Cruft Edward	61,000	366 00	5,000	30 00
5	Cudworth Samuel S.	6,000	36 00		
10	Cumings Bradley N.	5,000	30 00		
4	Cummings & Long			6,000	36 00
4	Cummings Daniel			10,000	60 00
4	Cummings Samuel R.	7,600	45 60	200	1 20
5	Cummings David	34,400	206 40	2,500	15 00
5	Cummings Charles W.	4,800	28 80	8,000	48 00
8	Cummings, Hildreth & Co.			20,000	120 00
10	Cummings Amos	5,400	32 40	3,000	18 00
2	Cunningham James	9,000	54 00		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
4	Cunningham Andrew	17,000	102 00		
4	Cunningham Andrew, ex'r			20,000	120 00
4	Cunningham Abigail			15,000	90 00
4	Cunningham Joseph L., heirs	50,000	300 00		
6	Cunningham Charles	9,000	54 00		
6	Cunningham James	12,000	72 00		
6	Cunningham James, trustee			9,000	54 00
8	Cunningham Nath'l F.	9,400	56 40		
8	Cunningham Nath'l F. & Co.			15,000	90 00
8	Cunningham A. & C.	10,000	60 00	75,000	450 00
9	Cunningham Charles	6,000	36 00	27,000	162 00
9	Cunningham James			40,000	240 00
4	Curtis Charles P.	23,500	141 00	25,000	150 00
4	Curtis Charles P., trustee			9,000	54 00
4	Curtis Benjamin R.	10,000	60 00	3,000	18 00
4	Curtis Thomas B.	15,000	90 00	5,000	30 00
4	Curtis Samuel	87,700	526 20	5,000	30 00
4	Curtis, Leavens & Co.			8,000	48 00
6	Curtis Caleb	9,600	57 60	15,000	90 00
7	Curtis Charles P. & Thomas B.	25,000	150 00		
8	Curtis, Reed & Co.			12,000	72 00
8	Curtis & Stevenson			40,000	240 00
9	Curtis Samuel S.	6,400	38 40		
9	Curtis Thomas	16,000	96 00	10,000	60 00
9	Curtis Philip, heirs	6,000	36 00		
9	Curtis John	24,000	144 00		
9	Curtis John & Son			10,000	60 00
10	Curtis James F., heirs	5,600	33 60		
10	Curtis George A.	3,200	19 20	5,000	30 00
11	Curtis Nathaniel	24,200	145 20		
3	Cushing Benjamin, heirs	4,400	26 40		
3	Cushing & Adams	7,200	43 20		
4	Cushing Lemuel	26,600	159 60	4,000	24 00
6	Cushing Charles	7,400	44 40		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
6	Cushing John	5,800	34 80		
6	Cushing Luther S.	9,000	54 00	10,000	60 00
6	Cushing George	4,800	28 80		
7	Cushing Thomas P.	13,000	78 00		
7	Cushing Thomas P., guardian			16,000	96 00
7	Cushing Abel	8,200	49 20	1,000	6 00
8	Cushing & Wilkinson			40,000	240 00
8	Cushing John P.	118,200	709 20		
8	Cushing Henry W. and others	6,600	39 60		
8	Cushing Rowland	7,200	43 20		
5	Cushman Robert W.	7,000	42 00	2,000	12 00
2	Cutler Ephraim B.	4,200	25 20	1,000	6 00
7	Cutler Pliny	46,000	276 00	5,000	30 00
7	Cutler Amos			4,500	27 00
8	Cutler M. J. & E.			5,000	30 00
8	Cutler & Robinson			5,000	30 00
10	Cutler Nahum	11,600	69 60	800	4 80
10	Cutler Micah	13,200	79 20	1,200	7 20
3	Cutter Ammi	25,000	150 00	2,000	12 00
9	Cutter Henry	5,400	32 40	1,000	6 00
10	Daggett Elizabeth	2,200	13 20	3,000	18 00
11	Dall William, heirs	64,400	386 40		
6	Dalton James	6,000	36 00	5,000	30 00
8	Dalton Peter R.	10,000	60 00	30,000	180 00
5	Dame Abraham A	5,000	30 00	1,000	6 00
1	Damon James	2,600	15 60	3,000	18 00
7	Damon Calvin	7,300	43 80	400	2 40
3	Damrell William S.	3,600	21 60	600	3 60
4	Dana Samuel	12,000	72 00	11,000	66 00
4	Dana Edmund W.			5,000	30 00
6	Dana Richard H.	6,000	36 00	1,000	6 00
8	Dana & Henshaw			100,000	600 00
8	Dana, Evans & Co.	5,000	30 00	35,000	210 00
10	Dana Dexter	9,000	54 00		
4	Dane & Dana			25,000	150 00
4	Danforth Isaac & Son			15,000	90 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
7	Danforth Elizabeth S.	11,000	66 00	12,000	72 00
7	Daniell Otis	8,000	48 00		
7	Daniell & Co.			15,000	90 00
5	Daniels Nathaniel	9,100	54 60	1,000	6 00
6	Daniels William B.	10,800	64 80	400	2 40
5	Darling Samuel, heirs	8,400	50 40		
5	Darling Thomas	20,900	125 40	3,000	18 00
7	Darracott George	10,000	60 00	5,000	30 00
7	Dashwood Sam'l, heirs	11,000	66 00		
4	Davenport Charles F.	6,000	36 00	300	1 80
6	Davenport Isaac, heirs	63,800	382 00		
8	Davenport John	13,600	81 60	1,000	6 00
1	Davidson & Dixon	4,600	27 60		
2	Davidson Hamilton & Co.			10,000	60 00
7	Davidson Andrew C., heirs	7,000	42 00		
5	Davies Daniel	4,200	25 20	1,000	6 00
7	Davies William, heirs	20,000	120 00		
1	Davis John	3,200	19 20	1,600	9 60
1	Davis John, 2d	4,000	24 00	1,600	9 60
1	Davis Nathaniel T.	4,000	24 00	600	3 60
2	Davis Henry	8,400	50 40	500	3 00
3	Davis Ebenezer, heirs	5,800	34 80		
4	Davis Daniel, heirs	8,000	48 00		
4	Davis Caroline	9,000	54 00		
5	Davis Jonathan	8,000	48 00	1,000	6 00
7	Davis, Palmer & Co.	28,000	168 00	30,000	180 00
7	Davis James	87,000	522 00	5,000	30 00
7	Davis Sam'l and others	12,000	72 00		
8	Davis Joshua, heirs	12,400	74 40		
8	Davis James, jr.	2,600	15 60	4,000	24 00
8	Davis & Blake			10,000	60 00
9	Davis William, jr.	14,000	84 00	45,000	270 00
9	Davis Joshua	5,600	33 60	4,000	24 00
9	Davis Sarah S.	6,000	36 00		
9	Davis Thomas & Nathaniel M.	11,000	66 00		
9	Davis William, jr., heirs	17,600	105 60		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
9	Davis Nathaniel M.	19,800	118 80		
9	Davis Thomas	11,000	66 00	28,000	168 00
9	Davis Rebecca	14,200	85 20	8,000	48 00
9	Davis John W., heirs	13,000	78 00	12,000	72 00
9	Davis John	24,000	144 00	30,000	180 00
9	Davis Isaac P.	6,800	40 80	1,000	6 00
10	Davis Samuel	18,000	108 00	30,000	180 00
11	Davis Charles, heirs	10,000	60 00		
2	Dawes Henry	11,500	69 00	6,000	36 00
4	Dean Henry	7,600	45 60		
4	Dean, Greene & Co.			15,000	90 00
9	Dean Henry A.			9,000	54 00
9	Dean Oliver	9,000	54 00		
8	Deane & Davis			7,000	42 00
9	Deane Charles	7,000	42 00		
7	Dearborn Benj., heirs	40,800	244 80		
6	Deblois George L., heirs	6,000	36 00		
7	Deblois Elizabeth, heirs	15,000	90 00		
6	Degrand Peter P. F.	3,800	22 80	10,000	60 00
4	Dehon Wm. and others	15,000	90 00		
4	Dehon William and others, trustees			13,000	78 00
6	Dehon Elizabeth	9,000			
5	Delano William H., heirs	8,000	48 00		
12	Demerest Samuel C.	2,000	12 00	2,500	15 00
10	Demeritt John	5,400	32 40		
4	Demond, Howe & Co.			8,000	48 00
2	Dennie & Boardman			18,000	108 00
4	Dennie James	9,000	54 00	8,000	48 00
4	Dennie James & George, executors			70,000	420 00
5	Dennie Thomas, heirs	20,000	120 00		
5	Dennie Caroline	8,000	48 00		
5	Dennie George	8,500	51 00		
5	Dennis Samuel	14,000	84 00		
10	Dennison James	11,800	70 80	200	1 20
8	Denny, Rice & Gardner			65,000	390 00
8	Denny Daniel	40,000	240 00	10,000	60 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
8	Denny R. S. & Co.			25,000	150 00
5	Denton Jonathan	15,400	92 40	1,000	6 00
5	Denton Augustus	8,800	52 80		
6	Denton James	4,000	24 00		
6	Derby Richard C.	30,000	180 00	50,000	300 00
7	Derby Ellen	6,000	36 00		
10	Derby E. Hasket	41,200	247 20		
8	Deshon James			10,000	60 00
10	Deshon Daniel	4,000	24 00	20,000	120 00
7	Devens Samuel and others	21,000	126 00		
12	Dewerson Richard	5,200	31 20		
1	Dewhurst William	5,000	30 00	400	2 40
2	Dexter, Harrington & Co.			8,000	48 00
3	Dexter Jonathan M.	19,000	114 00		
4	Dexter Anson	7,600	45 60		
4	Dexter Anson & Co.			7,000	42 00
4	Dexter Amasa	10,400	62 40	200	1 20
6	Dexter Theodore	12,200	73 20		
8	Dexter Mary L.	7,000	42 00		
9	Dexter Franklin	45,400	272 40	13,000	78 00
9	Dexter Thomas A.	14,000	84 00	10,000	60 00
9	Dexter Aaron, heirs	17,000	102 00		
9	Dexter John H.	8,000	48 00	8,000	48 00
10	Dexter George M.	35,600	213 60	15,000	90 00
10	Dexter Geo. M., trustee	21,000	126 00	12,000	72 00
10	Dexter N. P., and J. Pierce	8,200	49 20		
10	Dexter Alonzo	6,200	37 20		
11	Diamond Joseph	4,600	27 60	1,400	8 40
2	Dickenson Daniel	35,900	215 40	1,000	6 00
10	Dickinson John			7,000	42 00
3	Dickinson Samuel N.			12,000	72 00
4	Dickenson John & Dexter	34,000	204 00		
9	Dickson James A.	30,400	182 40	13,000	78 00
1	Dillaway William	23,900	143 40		
10	Dillaway Francis	18,400	110 40	600	3 60

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
4	Dimick Calvin	12,000	72 00	2,500	15 00
8	Dimmock John L.			6,000	36 00
7	Ditson Oliver			5,000	30 00
4	Dix & Freeman			5,000	30 00
6	Dixon Thomas	45,000	270 00	60,000	360 00
4	Dixwell John, heirs	8,000	48 00		
4	Dixwell John J.	5,000	30 00	20,000	120 00
4	Dixwell John J., trustee			20,000	120 00
5	Doak John	8,300	49 80	5,000	30 00
4	Doane Caroline	13,300	79 80	12,000	72 00
4	Doane Samuel B.	50,500	303 00	10,000	60 00
10	Doane John	5,600	33 60		
1	Dodd Horace	2,000	12 00	5,000	30 00
1	Dodd Benjamin	15,200	91 20		
2	Dodd & Snow			7,000	42 00
5	Dodd Benjamin	5,000	30 00	1,500	9 00
8	Dodd Timothy	5,000	30 00	10,000	60 00
9	Dodd John	12,600	75 60	3,000	18 00
8	Dodge & Tucker			30,000	180 00
8	Dodge Joshua C.	30,000	180 00		
8	Dodge Catharine and others	5,000	30 00		
8	Dodge Catharine	18,000	108 00	5,000	30 00
12	Dodge Ephraim	8,800	52 80		
4	Doe Joseph M.			8,000	48 00
4	Doggett John & Co.			20,000	120 00
10	Doggett Noah, heirs	18,200	109 20		
2	Dolan Edward	4,800	28 80	1,000	6 00
9	Dolbeare Edmund P.	7,200	43 20		
4	Dole Edward	12,000	72 00		
6	Dorr Samuel	44,000	264 00	75,000	450 00
6	Dorr Samuel A.	24,000	144 00	10,000	60 00
7	Dorr John	45,000	273 00	40,000	240 00
7	Dorr John and others, trustees			10,000	60 00
7	Dorr John, trustee			5,000	30 00
8	Dorr Joseph H.	6,000	36 00	4,000	24 00
11	Dorr Lucinda, heirs	7,000	42 00		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
7	Dow Samuel	13,400	80 40	5,000	30 00
10	Dow James B.	8,800	52 80	3,000	18 00
6	Dowe Joseph	4,000	24 00	2,000	12 00
8	Downer, Austin & Co.	18,000	108 00	25,000	150 00
9	Downes John	13,000	78 00	15,000	90 00
6	Downing Oliver	38,200	229 20	400	2 40
1	Drake Ziba	11,000	66 00		
9	Drake John, heirs	9,600	57 60		
9	Drake Tisdale	41,000	246 00	60,000	360 00
9	Drake Elizabeth	5,000	30 00	12,000	72 00
12	Drake Jeremy	3,000	18 00	2,000	12 00
9	Draper Daniel	13,400	80 40	45,000	270 00
10	Drayton Nancy	4,400	26 40		
2	Drew Joseph	8,400	50 40	2,000	12 00
4	Drury Leonard H.	11,200	67 20		
11	Drury Gardner P.	5,600	33 60		
7	Dudley William	6,200	37 20	600	3 60
5	Dugan John	23,100	138 60		
5	Dugan James	4,500	27 00	12,000	72 00
1	Dunbar Peter	15,200	91 20		
6	Dunbar Melzar	18,700	112 20	200	1 20
4	Duncklee J. & J.	2,200	13 20	8,000	48 00
12	Dunham Josiah	34,800	208 80	400	2 40
7	Dunlap David, heirs	12,000	72 00		
7	Dunlap Lucy A. C. A.			11,000	66 00
6	Dunn James C.	4,800	20 80	1,400	8 40
10	Dunton Charles	7,100	42 60		
3	Dupee Isaac	13,800	82 80		
5	Dupee Charles	6,000	36 00	600	3 60
8	Dupee Horace	4,800	28 80		
11	Dupee Lewis, heirs	8,000	48 00		
4	Dutton & Wentworth			10,000	60 00
5	Dutton Benjamin	4,800	28 80	1,200	7 20
7	Dutton Warren	17,600	105 60		
8	Dutton, Richardson & Co.			25,000	150 00
10	Dutton George D.	5,000	30 00		
6	Dwight Thomas			30,000	180 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
7	Dwight Edmund	30,000	180 00	100,000	600 00
8	Dwight & Hathaway			12,000	72 00
2	Dyar, Smith & Co.			5,000	30 00
2	Dyer John D., heirs	20,200	121 20		
3	Dyer Micah, jr.	5,400	32 40		
3	Dyer Oliver	5,000	30 00	1,000	6 00
7	Dyer Ebenezer E.	7,000	42 00	5,000	30 00
8	Eagle Bank			40,000	240 00
2	Eames Samuel, heirs	7,000	42 00		
1	Earl William	13,000	78 00	3,000	18 00
2	Earl & Brown			10,000	60 00
10	Earl Ichabod	17,400	104 40	200	1 20
4	Earle John, jr.	51,900	311 40		
4	Earle John, jr. & Co.			35,000	210 00
4	East Boston Sugar Refinery	200,800	1,204 80		
4	East Boston Wharf Co.	77,000	462 00		
4	East Boston Co.	86,200	517 20		
8	Eastburn John H.			10,000	60 00
2	Eastern Railroad Co.	120,000	720 00		
1	Eaton William	25,800	154 80	10,000	60 00
1	Eaton Ebenezer	46,400	278 40		
1	Eaton Ezra	8,000	48 00	3,000	18 00
1	Eaton Ezra O.			5,000	30 00
4	Eaton Joseph B.	9,000	54 00	8,000	48 00
4	Eaton Charles F.	6,000	36 00		
6	Eaton Asa	20,400	122 40		
6	Eaton William S. and other trustees			8,000	48 00
8	Eaton William G.			8,000	48 00
9	Eaton Timothy	23,200	139 20	2,000	12 00
11	Eaton William W.	7,000	42 00	3,000	18 00
12	Eaton William	3,600	21 60	5,000	30 00
7	Eayrs & Eairbanks			5,000	30 00
6	Eckley Thomas J.	35,000	210 00	10,000	60 00
6	Eckley David	28,000	168 00	130,000	780 00
4	Eddy Robert H.	10,500	63 00	1,000	6 00
5	Eddy Caleb	42,000	252 00	1,000	6 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
2	Edgerly & Vinal			6,000	36 00
2	Edland Abigail	5,400	32 40		
4	Edmands Thomas	8,000	48 00		
4	Edmands John W.	20,000	120 00	38,000	228 00
10	Edmands Ephraim W.	6,800	40 80	600	3 60
3	Edwards John F.	15,800	94 80		
8	Edwards & Stoddard			75,000	450 00
6	Edwards Henry	19,000	114 00		
9	Edwards William G.	9,600	57 60		
8	Eldridge Oliver & Co.			25,000	150 00
8	Eldridge Phœbe A.	5,400	32 40		
4	Eliot Margaret B.			10,000	60 00
7	Eliot Samuel A.	40,000	240 00	70,000	420 00
7	Eliot Samuel A., and H. Andrews, trustees	17,000	102 00		
4	Ellery John S.	13,000	78 00		
5	Elliot Robert B.	8,000	48 00	600	3 60
1	Ellis Rowland	5,600	33 60	1,000	6 00
1	Ellis Matthias	4,200	25 20		
2	Ellis Rowland, trustee	6,000	36 00		
3	Ellis John S.	3,500	21 00	800	4 80
4	Ellis G. & Co.			18,000	108 00
5	Ellis Luther, heirs	50,600	303 60		
8	Ellis & Merriam			50,000	300 00
9	Ellis George	22,000	132 00		
10	Ellis David	16,400	98 40		
10	Ellis Jabez	24,600	147 60	8,000	48 00
10	Ellis George	6,800	40 80		
10	Ellis Rufus	4,600	27 60		
10	Ellis & Mayo	35,500	213 00	10,000	60 00
11	Ellis Warren			8,000	48 00
9	Ellison James	5,600	33 60	20,000	120 00
1	Elwell David	4,500	27 00	5,000	30 00
4	Emerson George B.			10,000	60 00
4	Emerson, Harris & Potter			45,000	270 00
5	Emerson Edward	6,500	39 00	3,000	18 00
7	Emerson Benjamin D. and J. H. Jenks	13,000	78 00		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
12	Emerson Romanus	4,600	27 60	400	2 40
7	Emery Francis W. R.	4,800	28 80	1,000	6 00
10	Emery & Tirrell			8,000	48 00
2	Emmes Samuel	7,100	42 60		
3	Emmons Joshua	4,200	25 20		
4	Emmons & Weld			12,000	72 00
7	Emmons Nathaniel H.	21,300	127 80	24,000	144 00
10	Emmons Thomas	7,200	43 20	3,000	18 00
10	Emmons Samuel, heirs	23,000	138 00		
5	English James L.			5,000	30 00
7	Erving Mary	14,000	84 00		
10	Erving James, heirs	5,400	32 40		
11	Erving Edward S.	5,000	30 00	1,000	6 00
9	Estes Edmund	10,000	60 00		
10	Etheridge John, heirs	6,000	36 00		
3	Eustis George	5,000	30 00		
3	Eustis William, heirs	12,000	72 00		
4	Eustis William T.	8,700	52 20		
7	Eustis Abraham, heirs	8,000	48 00		
8	Eustis William T. & Co.			25,000	150 00
10	Eustis Joseph			5,000	30 00
10	Eustis William	5,000	30 00		
8	Eustis Charles and A. Brackett	24,000	144 00		
10	Eustis William	36,100	216 60		
11	Eustis John	4,800	28 80		
8	Everett & Douglass			10,000	60 00
9	Everett Charles	8,400	50 40		
10	Everett Aaron			17,500	105 00
11	Everett Moses	6,400	38 40	44,000	264 00
11	Everett Otis	22,000	132 00		
11	Everett Otis, jr.	1,400	8 40	3,400	20 40
7	Fairbanks Stephen	11,000	66 00		
8	Fairbanks John	110,000	660 00	20,000	120 00
8	Fairbanks Drury	8,600	51 60		
8	Fairbanks, Loring & Co.			60,000	360 00
8	Fairbanks Drury & Co.			15,000	90 00
9	Fairbanks Josiah L.	6,000	36 00		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
2	Fairfield, Lincoln & Co.			12,000	72 00
4	Fairfield John			12,000	72 00
7	Fales Samuel and others, trustees			9,000	54 00
7	Fales Samuel	79,800	478 80	60,000	360 00
7	Fales Halliburton			11,000	66 00
8	Fales & Dana			15,000	90 00
11	Fales Elisha F.	15,800	94 80	4,000	24 00
6	Farley Robert	37,200	223 20	25,000	150 00
9	Farlow John S.	5,400	32 40	3,000	18 00
9	Farnam Henry	57,400	344 40	400	2 40
9	Farnum Rufus	6,000	36 00		
3	Farnsworth Amos	5,800	34 80		
4	Farnsworth Isaac D.	2,600	15 60	6,000	36 00
8	Farnsworth & Phipps	102,000	612 00		
8	Farnsworth & Shaw			8,000	48 00
1	Farrar James, heirs	5,000	30 00		
5	Farrington Sarah & L.	5,000	30 00	1,000	6 00
5	Faulkner David	7,000	42 00		
6	Faulkner Luther, trustee			6,000	36 00
8	Faulkner & Beals			8,000	48 00
9	Favor John W.	6,200	37 20	600	3 60
5	Fawcett Samuel H.	3,500	21 00	1,000	6 00
2	Faxon N. & Co.			20,000	120 00
2	Faxon George N.			15,000	90 00
8	Faxon Nathaniel	46,000	276 00	40,000	240 00
8	Faxon William, heirs	12,000	72 00		
4	Fay Luke,	5,000	30 00		
4	Fay Dana			5,000	30 00
4	Fay Harrison	9,200	55 20	10,000	60 00
4	Fay Luke & Son			5,000	30 00
8	Fay, Farwell & Co.			20,000	120 00
10	Fay Richard S.	31,100	186 60	10,000	60 00
10	Fay Richard S., trustee			5,000	30 00
10	Fay Windsor	67,400	404 40	30,000	180 00
10	Fay William C.			15,000	90 00
10	Fay Joel	6,400	38 40		
4	Fearing Albert & Co.			25,000	150 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
7	Federhen John	5,000	30 00		
10	Felt Jonathan W.	8,400	50 40	400	2 40
10	Felt Joseph B.	8,400	50 40	5,000	30 00
12	Felton Luther	17,800	106 80		
12	Felton Luther & Son			25,000	150 00
11	Fenno James W.	23,400	140 40	4,000	24 00
11	Fenno J. W. and others, executors			55,000	330 00
9	Fenwick Benedict	4,700	28 20	3,000	18 00
10	Fernald Eli	11,200	67 20	200	1 20
1	Fessenden Benjamin	5,200	31 20		
3	Fessenden John P.	7,500	45 00	200	1 20
3	Fessenden John M.	6,400	38 40		
4	Fettyplace William	10,200	61 20	400	2 40
2	Field & Converse			15,000	90 00
6	Field Benjamin F.			5,000	30 00
9	Field Elisha	3,200	19 20	2,000	12 00
11	Field Pearson H.	3,200	19 20	5,000	30 00
10	Fifield Calvin S.	5,400	32 40	600	3 60
4	Fifty Associates	594,000	3,564 00	13,000	78 00
4	Fillebrown, Smith & Co.			5,000	30 00
8	Firemen's Insurance Co.	35,000	210 00		
5	Fisher Jabez	5,000	30 00		
5	Fisher Willard N.	4,500	27 00	1,500	9 00
6	Fisher Nathaniel	5,600	33 60		
7	Fisher Francis	16,000	96 00		
7	Fisher Warren	6,000	36 00		
8	Fisher, Freeman & Son			15,000	90 00
8	Fisher & Co.			25,000	150 00
10	Fisher Mark			6,000	36 00
11	Fisher Betsey	5,400	32 40	3,000	18 00
5	Fishers & Baldwin	4,600	27 60	5,000	30 00
1	Fisk Francis	6,400	38 40	600	3 60
4	Fisk William P.			6,000	36 00
11	Fisk & Rice	16,600	99 60		
11	Fisk William	14,200	85 20	2,000	12 00
1	Fiske Benjamin	47,000	282 00		
6	Fiske Augustus H.	37,600	225 60	15,000	90 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
4	Fitch Jeremiah, heirs	30,500	183 00		
5	Fitch Mary, heirs	8,500	51 00		
11	Fitch Jonas	4,400	26 40		
11	Fitzpatrick Thomas	4,000	24 00	600	3 60
2	Flagg Henry	5,400	32 40		
4	Flagg Jane	7,000	42 00		
7	Flagg Josiah F.	21,600	129 60	7,000	42 00
9	Flagg Charles A.	1,400	8 40	5,000	30 00
10	Flanders John L.	4,200	25 20	200	1 20
5	Fleet Thomas, heirs	8,200	49 20		
8	Fleet John, heirs	22,400	134 40		
3	Fletcher Joel P.	17,500	105 00	400	2 40
4	Fletcher Richard			35,000	210 00
4	Fletcher R. F. & Co.			12,000	72 00
8	Fletcher & Appleton			15,000	90 00
10	Fletcher Sarah, heirs	6,400	38 40		
12	Fletcher Henry W.	9,200	55 20	6,000	36 00
6	Flint Waldo			7,000	42 00
6	Flint Waldo, guardian			7,000	42 00
7	Flood Edward	6,800	40 80	22,000	132 00
5	Floyd Andrew	6,000	36 00		
3	Flynn R. & P.	2,800	16 80	10,000	60 00
12	Flynn Jacob	5,200	31 20		
4	Fogg Jeremiah	3,000	18 00	2,000	12 00
4	Follett Dexter	12,400	74 40	12,000	72 00
9	Folling George, jr.	6,800	40 80	1,200	7 20
4	Forbes Robert B.	19,000	114 00		
4	Forbes John M.	10,300	61 80		
8	Forbes William	23,900	143 40		
4	Forbush Jonathan	18,000	108 00	20,000	120 00
11	Ford John V.	9,800	58 80	1,000	6 00
12	Ford Barnard	3,400	20 40	1,600	9 60
6	Forristall Ezra	9,800	58 80	2,000	12 00
8	Fosdick John			10,000	60 00
10	Foss Jacob	10,000	60 00		
3	Foster Matthias S.	3,600	21 60	600	3 60
4	Foster Thomas R.	13,200	79 20	5,500	33 00
4	Foster & Doane			6,000	36 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
4	Foster & Taylor			6,000	36 00
4	Foster Jacob			10,000	60 00
5	Foster Elizabeth H.	14,000	84 00		
5	Foster Archibald	8,500	51 00	1,000	6 00
5	Foster Eben B.	3,600	21 60	600	3 60
6	Foster James	8,200	49 20		
6	Foster George	6,000	36 00		
7	Foster James H. & Son			12,000	72 00
7	Foster Leonard and others	7,000	42 00		
8	Foster John H.			6,000	36 00
9	Foster Charles C.	47,600	285 60	5,000	30 00
9	Foster Leonard	7,400	44 40	2,000	12 00
9	Foster James H.	62,900	377 40	40,000	240 00
9	Foster William	34,200	205 20	5,000	30 00
10	Foster John H.	15,600	93 60	3,600	21 60
2	Fowle Henry	3,800	22 80	600	3 60
5	Fowle James	22,500	135 00	5,000	30 00
7	Fowle Parker & William	9,000	54 00		
7	Fowle William B. & N. Capen			5,000	30 00
8	Fowle Seth W.			10,000	60 00
10	Fowle Parker			15,000	90 00
3	Fox Charles J.	8,000	48 00	400	2 40
4	Foxcroft Betsey	4,600	27 60		
9	Foxcroft Betsey	5,400	32 40		
10	Foxcroft Francis A., heirs	9,000	54 00		
3	Francis Ebenezer	8,000	48 00		
4	Francis Ebenezer	184,800	1,108 80		
7	Francis Nathaniel	8,000	48 00	5,000	30 00
8	Francis & Lovell	4,600	27 60	5,000	30 00
8	Francis Nathaniel	5,800	34 80	5,000	30 00
10	Francis David	5,000	30 00	1,000	6 00
10	Francis Joseph H.			5,000	30 00
4	Franklin Insurance Co.			5,000	30 00
3	Franksen John H.	9,000	54 00	1,000	6 00
4	Freeman William	8,400	50 40	10,000	60 00
7	Freeman John D.	3,600	21 60	2,000	12 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
9	Freeman Sally F.	6,400	38 40		
10	Freeman Watson	10,000	60 00	2,000	12 00
2	French Charles			6,000	36 00
4	French Jonathan, heirs	45,000	270 00		
4	French Thomas	4,300	25 80	1,000	6 00
5	French Anna	10,000	60 00	15,000	90 00
7	French Charles, heirs	15,800	94 80		
8	French Moses, jr.	21,000	126 00	5,000	30 00
9	French Abram	6,000	36 00	5,000	30 00
9	French John M. & Co.			10,000	60 00
11	French Arthur, heirs	12,000	72 00		
4	Frost William R.	12,800	76 80	200	1 20
6	Frost Lucy C.	4,400	26 40		
7	Frost Walter	36,600	219 60	4,000	24 00
2	Frothingham Ebenezer, heirs	7,000	42 00		
2	Frothingham Peter			12,000	72 00
6	Frothingham Samuel	12,000	72 00	30,000	180 00
7	Frothingham Thomas, heirs	9,000	54 00		
7	Frothingham Thomas	8,000	48 00	400	2 40
8	Frothingham Samuel, jr. & Co.			20,000	120 00
9	Frothingham Nath'l L.			10,000	60 00
10	Frothingham Nath'l, 2d	4,000	24 00	1,000	6 00
11	Frothingham Ephraim L.	4,200	25 20		
11	Frothingham George W.	4,000	24 00	5,000	30 00
4	Fullam David	18,000	108 00		
4	Fullam James F.			10,000	60 00
2	Fuller Benjamin, heirs	5,000	30 00		
3	Fuller Robert	6,000	36 00	25,000	150 00
4	Fuller Stephen P.	18,600	111 60	3,000	18 00
4	Fuller Abraham	19,000	114 00	12,000	72 00
5	Fuller & Allen	13,200	79 20	3,000	18 00
6	Fuller Samuel D.	4,800	28 80		
7	Fuller H. Weld	21,100	126 60	2,000	12 00
10	Fuller Charles C.	4,400	26 40	400	2 40
8	Fullerton Alexander & Co.			7,000	42 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
9	Fullerton Alexander	7,400	44 40		
12	Furbush Milo	3,400	20 40	3,000	18 00
5	Furness William	3,600	21 60	1,500	9 00
8	Gaffield Thomas	13,300	79 80		
7	Gage & Streeter	8,000	48 00		
7	Gage Benjamin W.	3,200	19 20	5,000	30 00
4	Gale E. & L. S.	9,000	54 00	10,000	60 00
11	Gamage Amory	5,200	31 20	200	1 20
3	Garaux Francis, heirs	9,000	54 00		
7	Gardiner William H.	20,000	120 00	20,000	120 00
9	Gardiner George	21,800	130 80		
11	Gardiner William, heirs	10,000	60 00		
4	Gardner John L.	55,600	333 60		
4	Gardner John L., trustee			30,000	180 00
4	Gardner Joshua	20,000	120 00		
4	Gardner & Bartlett			10,000	60 00
6	Gardner Leavitt	2,800	16 80	1,500	9 00
7	Gardner John D.	14,000	84 00	20,000	120 00
7	Gardner John	13,000	78 00		
7	Gardner George			5,000	30 00
7	Gardner Sam'l P., heirs	28,000	168 00		
7	Gardner Henry	145,100	870 60	25,000	150 00
8	Gardner John L. & Co.			70,000	420 00
8	Gardner John & Co.			30,000	180 00
10	Gardner Robert	4,200	25 20		
6	Garfield William H.	4,800	28 80		
2	Garrett Robert	6,800	40 80		
5	Gass Joseph	28,800	172 80	2,500	15 00
8	Gassett, Bullard & Co.			25,000	150 00
9	Gassett Henry	19,000	114 00	105,000	630 00
2	Gates James W. & Co.	17,900	107 40	10,000	60 00
4	Gay & Stratton			7,000	42 00
4	George N. M. & Co.			5,000	30 00
4	Gerard James W.	6,200	37 20		
8	Gerrish George W.	30,000	180 00		
5	Geyer Andrew	5,000	30 00	2,000	12 00
7	Gibbens Daniel L.	13,600	81 60		
7	Gibbens Daniel L. & Son			6,000	36 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
4	Gibbs William P.	78,000	468 00		
6	Gibbs Nathan B.	17,000	102 00		
6	Gibbs Sarah	55,000	330 00		
6	Gibson Kimball	12,000	72 00		
11	Gibson Susannah, heirs	16,200	97 20		
4	Gilbert John, jr.	7,000	42 00		
4	Gilbert Samuel & Sons			20,000	120 00
7	Gilbert John, jr. & Co.			7,000	42 00
8	Gilbert Caleb C.	1,800	10 80	35,000	210 00
9	Gilbert Timothy & Co.	3,000	18 00	15,000	90 00
9	Gilbert Timothy	34,200	205 20		
9	Gilbert Samuel	10,600	63 60		
10	Gilbert Benjamin J.	6,000	36 00	65,000	390 00
11	Gilbert Benjamin J., jr.			5,000	30 00
11	Gilbert Luther	9,000	54 00	1,000	6 00
7	Giles Ann W.	11,000	66 00		
10	Gill Perez	30,600	183 60		
11	Gill Warren	5,200	31 20		
4	Gilman John T.	19,000	114 00		
5	Gilman George W.	5,500	33 00	1,800	10 80
4	Gilmore Addison	47,000	282 00	40,000	240 00
11	Gleason John E.	7,000	42 00	200	1 20
4	Globe Bank	39,600	237 60	19,000	114 00
2	Glover Lewis	6,400	38 40		
5	Glover Elisha V.	5,100	30 60		
8	Glover Joseph B. & Co.			5,000	30 00
11	Glover Jonas	3,200	19 20	1,600	9 60
11	Glover Stephen, heirs in possession	17,000	102 00		
2	Goddard Nathaniel, jr.			5,000	30 00
2	Goddard Benjamin			5,000	30 00
4	Goddard Nathaniel	281,200	1,687 20	1,000	6 00
6	Goddard William W.			25,000	150 00
7	Goddard James	2,500	15 00	8,000	48 00
9	Goddard Jonathan	22,400	134 40	25,000	150 00
9	Goddard William	41,200	247 20	600	3 60
10	Goddard William E.			5,000	30 00
10	Goddard Samuel	17,400	104 40		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
4	Goff Samuel, heirs	14,000	84 00		
10	Goodale George W.	5,200	31 20	600	3 60
6	Gooding Josiah			4,500	27 00
3	Goodnow L. & J.	5,100	30 60	10,000	60 00
4	Goodnow J. D. & G.			25,000	150 00
10	Goodnow Peter			10,000	60 00
12	Goodnow Elisha	17,500	105 00	600	3 60
4	Goodrich Sarah	6,000	36 00		
7	Goodrich Charles B.			5,000	30 00
8	Goodridge Samuel, heirs	5,000	30 00		
2	Goodwin Thomas J.	6,400	38 40		
3	Goodwin Nath'l, trustee	13,000	78 00		
4	Goodwin Ozias	26,600	159 60	85,000	510 00
4	Goodwin Ozias, trustee of Bray			9,000	54 00
4	Goodwin Ozias, trustee			15,000	90 00
6	Goodwin Eliza	30,000	180 00	10,000	60 00
12	Gordak William	3,200	19 20	5,000	30 00
5	Gorham Warner A.	5,000	30 00	500	3 00
7	Gorham Benjamin	26,000	156 00	30,000	180 00
8	Gossler & Co.			60,000	360 00
1	Gould Thomas, jr.	12,400	74 40		
1	Gould Frederick	22,600	135 60	1,000	6 00
3	Gould Samuel L.	3,600	21 60	1,000	6 00
3	Gould Thomas	31,600	189 60		
4	Gould, Kendall & Lincoln			15,000	90 00
5	Gould John G.	6,300	37 80	600	3 60
6	Gould Corbin	6,000	36 00		
7	Gould Augustus A.	9,000	54 00	1,000	6 00
7	Gould Samuel	7,600	45 60		
11	Gould Benjamin	3,600	21 60	600	3 60
2	Gove, Locke & Co.			10,000	60 00
5	Gove J., & A. H. Brown	5,000	30 00		
10	Goward Watson	4,400	26 40	1,000	6 00
2	Gragg Jacob	6,800	40 80		
2	Gragg & Buttrick	7,000	42 00	4,000	24 00
8	Gragg Oliver	30,000	180 00		
9	Gragg Stephen	5,800	34 80		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
6	Graham John	8,800	52 80	400	2 40
7	Grand Lodge of Massachusetts	34,000	204 00		
3	Grant, Daniell & Co.			30,000	180 00
4	Grant Moses	46,800	280 80	22,000	132 00
6	Grant Anna P.	35,200	211 20	10,000	60 00
10	Grant Daniel	6,800	40 80		
2	Gray Thomas	16 200	97 20		
3	Gray Mary	6,000	36 00		
3	Gray & Briggs	26,800	160 80	800	4 80
4	Gray Frederick T.	28,500	171 00	3,000	18 00
4	Gray Francis H.			5,000	30 00
4	Gray William			20,000	120 00
4	Gray William, trustee			10,000	60 00
4	Gray William, guardian			5,000	30 00
4	Gray John	102,000	612 00	5,000	30 00
6	Gray Samuel C.	25,400	152 40	70,000	420 00
6	Gray Francis C.	17,000	102 00	110,000	660 00
7	Gray Mary			10,000	60 00
7	Gray Thomas, jr.	12,000	72 00	4,000	24 00
8	Gray George H. & Co.			30,000	180 00
8	Gray John H.	9,800	58 80		
8	Gray Horace & Co.			75,000	450 00
8	Gray Francis A.			40,000	240 00
9	Gray Horace	91,000	546 00		
9	Gray John C.	141,000	846 00	100,000	600 00
9	Gray Thomas	13,000	78 00		
9	Gray Martha	6,000	36 00		
9	Gray Henry D.			10,000	60 00
9	Greele Samuel			15,000	90 00
8	Greely & Guild			20,000	120 00
2	Green Matthew	30,000	180 00		
4	Green Joseph W.			5,000	30 00
6	Green John S. C.	10,000	60 00		
11	Green & Bacon	4,000	24 00	1,000	6 00
11	Green John, jr.	9,800	58 80	400	2 40
4	Greene Charles G.	12,800	76 80	2,000	12 00
4	Greene Benjamin D.	26,000	156 00	20,000	120 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
7	Greene Elizabeth	32,000	192 00		
8	Greene & Loring			7,000	42 00
9	Greene Mary & Hannah	5,400	32 40	15,000	90 00
9	Greene Benjamin, heirs	11,000	66 00		
10	Greene Mary & L. T.	18,000	108 00		
10	Greene Gardiner, heirs	29,000	174 00		
10	Greene Nathaniel	5,000	30 00	2,000	12 00
2	Greenleaf Daniel	12,000	72 00		
5	Greenleaf Gardner	18,000	108 00	5,000	30 00
7	Greenleaf Thomas	14,000	84 00		
9	Greenleaf Samuel	12,000	72 00	36,000	216 00
4	Greenough Wm. & Co.			15,000	90 00
4	Greenough David S., trustee	5,100	30 60		
6	Greenough Henry	11,000	66 00	25,000	150 00
6	Greenough Alfred			25,000	150 00
7	Greenough John	18,000	108 00		
7	Greenough David S. and others	60,000	360 00		
7	Greenough David, heirs	126,400	758 40		
5	Greenwood William P.	57,800	346 80	25,000	150 00
7	Greenwood Francis W. P., heirs	12,000	72 00		
10	Greenwood James	7,000	42 00		
2	Gregerson & Sumner			6,000	36 00
4	Gregerson James B.	5,500	33 00	2,000	12 00
4	Grew Henry	17,000	102 00		
9	Gridley William	31,100	186 60	3,000	18 00
7	Griffin Francis and others	40,000	240 00		
10	Griffith Edmund R.	5,600	33 60	2,400	14 40
1	Griggs, Liscomb & Co.			15,000	90 00
11	Griggs John	17,400	104 40	200	1 20
3	Groom Thomas	9,500	57 00		
4	Groom Thomas & Co.			12,000	72 00
3	Grosvenor Lemuel P.	38,000	228 00		
8	Grover & Badger	13,000	78 00	2,000	12 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
5	Grubb William	4,000	24 00	1,500	9 00
2	Guild William H.	16,200	97 20		
4	Guild Samuel	10,000	60 00		
4	Guild Elizabeth			6,000	36 00
7	Guild Benjamin	48,000	288 00		
11	Guild Aaron	18,800	112 80	10,000	60 00
7	Gulliver John			10,000	60 00
5	Gunn Cephas M.	5,000	30 00	1,000	6 00
3	Gurney Henry	8,200	49 20	2,000	12 00
7	Gurney Nathan	14,000	84 00	20,000	120 00
2	Gustus J. Frederick	6,200	37 20	400	2 40
5	Hackett Jeremiah C.	6,000	36 00	500	3 00
2	Hale Ezekiel	6,200	37 20		
2	Hale Daniel L.	5,000	30 00	5,000	30 00
7	Hale Moses L.			12,000	72 00
7	Hale Nathan			5,000	30 00
11	Hale George	3,000	18 00	1,800	10 80
6	Hales William	16,000	96 00	1,500	9 00
3	Haley William P.	8,200	49 20	800	4 80
5	Haley William	5,500	33 00	1,500	9 00
1	Hall Jacob	56,000	336 00	4,000	24 00
1	Hall Timothy	3,000	18 00	5,000	30 00
2	Hall Stephen & Co.			15,000	90 00
2	Hall Joseph	5,000	30 00		
3	Hall Stephen	5,400	32 40		
3	Hall Jonathan P. & Co.			12,000	72 00
3	Hall Nathaniel, heirs	24,000	144 00		
3	Hall Jonathan P.			14,000	84 00
4	Hall Jonathan P., heirs	8,000	48 00	12,000	72 00
4	Hall Joseph	12,000	72 00	10,000	60 00
4	Hall Henry	38,000	228 00	30,000	180 00
4	Hall Samuel	11,500	69 00	1,000	6 00
5	Hall Andrew	4,200	25 20	500	3 00
5	Hall John	49,800	298 80	600	3 60
5	Hall Edward F.	5,000	30 00		
5	Hall Adin	56,200	337 20	1,000	6 00
5	Hall James	6,000	36 00	600	3 60
8	Hall & Osgood			15,000	90 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
8	Hall Andrew T. & Co.	3,000	18 00	25,000	150 00
9	Hall William A.	4,400	26 40		
9	Hall Richard	6,000	36 00	6,000	36 00
9	Hall Andrew T.	6,000	36 00	15,000	90 00
11	Hall & Adams	4,000	24 00	400	2 40
11	Hall Ephraim	4,200	25 20	400	2 40
11	Hall James	15,000	90 00		
3	Hallett George	87,700	526 20		
4	Hallett James H.			8,000	48 00
7	Hallett, Davis & Co.			10,000	60 00
8	Hallett & Blake			20,000	120 00
11	Hallett Job	2,200	13 20	2,000	12 00
8	Hamblen Joshua	4,000	24 00	600	3 60
3	Hamilton Manufacturing Co.	15,200	91 20		
4	Hammatt John B.	10,600	63 60	200	1 20
5	Hammatt Charles	5,000	30 00	600	3 60
5	Hammond Nathaniel	48,700	292 20	600	3 60
5	Hammond Artemas	9,000	54 00		
6	Hammond Susan	16,000	96 00		
8	Hammond Daniel	40,500	243 00	18,000	108 00
7	Hancock John	80,400	482 40	125,000	750 00
10	Hancock John	5,200	31 20		
11	Hancock Henry K.	10,600	63 60	3,000	18 00
9	Hanners Benjamin	8,400	50 40		
5	Hanson John B.			8,000	48 00
11	Harden Calvin	3,600	21 60	600	3 60
3	Harding Isaac	7,000	42 00	400	2 40
5	Harding Newell	5,600	33 60	3,000	18 00
7	Harding Chester	25,000	150 00		
12	Harding Wilder	10,000	60 00	200	1 20
12	Harding William B.	14,200	85 20	800	4 80
2	Hardy & Baker			17,000	102 00
5	Hardy Alpheus	4,500	27 00		
10	Hardy George H.	4,800	28 80		
10	Harlow Joshua & Nancy	6,000	36 00		
11	Harlow Joshua	6,800	40 80		
4	Harmon John	6,000	36 00	4,000	24 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
7	Harnden & Co.			15,000	90 00
7	Harnden William F.	10,000	60 00		
4	Harper Edward	4,000	24 00	2,000	12 00
1	Harrington Bowen	9,000	54 00		
8	Harrington & Fiske			5,000	30 00
10	Harrington Andrew	6,400	38 40	800	4 80
11	Harrington Ephraim	32,400	194 40		
1	Harris Isaac	58,800	352 80		
1	Harris Joseph	4,400	26 40		
2	Harris Henry & others	14,000	84 00		
2	Harris George	16,800	100 80	600	3 60
4	Harris, Stanwood & Co.			15,000	90 00
5	Harris Samuel	7,000	42 00		
8	Harris Richard D.	40,000	240 00	1,000	6 00
8	Harris Leach, heirs	12,000	72 00		
9	Harris Benj. C., heirs	21,200	127 20		
9	Harris James	18,600	111 60	15,000	90 00
9	Harris James & others, trustees	3,900	23 40	11,000	66 00
10	Harris Mary	12,000	72 00		
2	Harrod & Fernald			5,000	30 00
1	Hartt Samuel	5,000	30 00		
1	Hartt Joseph, heirs	16,200	97 20		
5	Hartshorn Eliphalet P.	4,500	27 00	300	1 80
5	Haseltine Hazen			5,000	30 00
7	Haskell Elisha	26,000	156 00		
7	Haskell & Fessenden			5,000	30 00
8	Haskell Calvin	12,300	73 80		
9	Haskins John, heirs	26,000	156 00		
9	Haskins Ralph	87,900	527 40		
10	Haskins Thomas	5,000	30 00	1,000	6 00
5	Hassam John	4,000	24 00	1,000	6 00
7	Hastings Benj. heirs	15,000	90 00		
7	Hastings Sally	5,000	30 00		
7	Hastings Mary Ann	8,000	48 00	6,000	36 00
8	Hastings E. T. & Co.			15,000	90 00
9	Hastings William	11,000	66 00		
10	Hastings Bulkley A.	12,400	74 40		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
10	Hastings Sarah H.	6,000	36 00		
11	Hatch Henry	14,600	87 60	2,000	12 00
5	Hathaway John	4,500	27 00	15,000	90 00
5	Hathaway John, surviving copartner			25,000	150 00
6	Hathaway Elisha	5,400	32 40	600	3 60
8	Haughton, Sawyer & Adams			12,000	72 00
4	Haven Curtis	7,000	42 00	200	1 20
6	Haven Franklin	42,500	255 00	31,000	186 00
11	Haven Calvin A.	5,200	31 20	1,000	6 00
6	Haviland Thomas	17,600	105 60	600	2 60
5	Hawes Joseph	11,400	68 40		
7	Hawes Prince	22,000	132 00		
8	Hawes, Gray & Co.			75,000	450 00
10	Hawes William B.	5,000	30 00		
4	Hawley Trueman R.			5,000	30 00
8	Hay Edmund	8,000	48 00		
10	Hay Joseph	19,500	117 00	30,000	180 00
4	Hayden William and T. M. Brewer			15,000	90 00
5	Hayden & Pike			5,000	30 00
7	Hayden John C.	5,000	30 00	5,000	30 00
10	Hayden J. C. &. H. J. Sargent	5,600	33 60		
10	Hayden William	85,000	510 00		
3	Haynes Charles	18,200	109 20		
5	Haynes Tristram, heirs	5,200	31 20		
8	Haynes & Hartt			5,000	30 00
10	Haynes Edward, jr.	5,400	32 40		
4	Hayward George	20,000	120 00	20,000	120 00
4	Hayward J. T. & Co.			10,000	60 00
6	Hayward Sarah	70,000	420 00		
7	Hayward Lydia			5,000	30 00
7	Hayward Charles	6,000	36 00	2,000	12 00
7	Hayward Harriet S.	13,200	79 20		
8	Hayward James			11,000	66 00
8	Hayward & Morse			5,000	30 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
10	Hayward Bathsheba	5,000	30 00		
10	Hayward Joseph H.	55,600	333 60	25,000	150 00
4	Hazen Charles			10,000	60 00
7	Head George E.	21,000	126 00	10,000	60 00
7	Head Joseph	16,000	96 00		
4	Healey Mark	8,000	48 00	1,000	6 00
7	Healey John P., adm'r			20,000	120 00
3	Heard & Welch			20,000	120 00
6	Heard John, heirs	95,900	575 40		
6	Heard Sarah and Augustine, ex'rs			10,000	60 00
3	Heath Jonas	19,000	114 00		
11	Heath Frederick A.	8,400	50 40		
11	Heath Charles	17,000	102 00	15,000	90 00
7	Heaton George	5,000	30 00	400	2 40
7	Head Eunice D.	10,500	63 00		
5	Henchman Daniel	9,500	57 00	2,500	15 00
9	Henchman Nathaniel H.	7,000	42 00	1,000	6 00
9	Hendee Charles J.	14,000	84 00	20,000	120 00
4	Henderson Charles	5,000	30 00		
5	Henderson Charles & Son			5,000	30 00
10	Hendley James	44,500	267 00	3,000	18 00
1	Henry John			5,000	30 00
4	Henshaw Charles C.			6,000	36 00
6	Henshaw R. W. & W. Blackmore	4,800	28 80		
6	Henshaw Samuel	9,000	54 00		
6	Henshaw Samuel and other, trustee			12,000	72 00
8	Henshaw John	7,400	44 40		
8	Henshaw, Ward & Co.	17,600	105 60	100,000	600 00
8	Henshaw Charles	14,200	85 20	15,000	90 00
11	Herring Roger	7,800	46 80	400	2 40
8	Hersey Alfred C.	16,400	98 40	7,000	42 00
7	Hewes Shubael, heirs	16,000	96 00		
7	Hewes Samuel	12,000	72 00		
7	Hewett Simon C.	5,000	30 00	2,000	12 00
8	Hewins & Fisher			7,000	42 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
8	Hewins & Thayer			5,000	30 00
5	Hews John	13,200	79 20		
7	Hews George	3,400	20 40	4,000	24 00
11	Hews Abraham, jr.	3,000	18 00	3,000	18 00
2	Hichborn Samuel, heirs	9,000	54 00		
7	Hickling Charles			6,000	36 00
8	Hicks J. C. & W. H.			7,000	42 00
8	Hicks James H. & Co.			15,000	90 00
4	Higgins John S.	6,000	36 00	2,000	12 00
4	Higgins Peter	3,000	18 00	2,000	12 00
12	Higgins George	8,000	48 00	400	2 40
6	Higginson James P.	11,000	66 00	8,000	48 00
8	Hildreth Augustus, heirs	6,400	38 40		
11	Hildreth Clifton B.	7,600	45 60	200	1 20
1	Hill David W.	6,200	37 20		
3	Hill & Chamberlin	9,500	57 00	4,000	24 00
4	Hill John S.			7,000	42 00
4	Hill Charles L., heirs	12,000	72 00		
4	Hill John			12,000	72 00
5	Hill William H.	8,000	48 00	5,000	30 00
5	Hill Jeremiah	10,000	60 00	10,000	60 00
6	Hill Elizabeth	18,400	110 40		
7	Hill George & Co.			25,000	150 00
8	Hill David	26,000	156 00	22,000	132 00
8	Hill Thomas	5,600	33 60	1,000	6 00
8	Hill, Chamberlin & Co.			50,000	300 00
9	Hill George	10,000	60 00	40,000	240 00
9	Hill Susan	7,400	44 40		
9	Hill Archibald	6,400	38 40	4,000	24 00
12	Hill Samuel	11,600	69 60		
10	Hills Joseph	5,000	30 00	200	1 20
11	Hills George	62,600	375 60	1,000	6 00
3	Hill Henry	12,900	77 40	200	1 20
10	Himes Joshua V.			5,000	30 00
8	Hinckley David, heirs	70,600	423 60		
2	Hinkley Abigail, heirs	8,000	48 00		
11	Hinkley Holmes	23,400	140 40		
11	Hinkley & Drury			18,000	108 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
8	Hitchcock, Cobb & Winslow			30,000	180 00
1	Hobart Shubael	6,200	37 20		
8	Hobart, Cummings & Co.			18,000	108 00
8	Hobart & Wilkins			12,000	72 00
10	Hobart Aaron	5,000	30 00		
1	Hobbs Nathan	3,600	21 60	2,400	14 40
9	Hobbs Prentiss	9,400	56 40	10,000	60 00
9	Hobbs Prentiss & T. J.	20,000	120 00	10,000	60 00
9	Hodge Henry	4,400	26 40	600	3 60
6	Hoffman Philip V.	28,300	169 80		
2	Holbrook Charles			5,000	30 00
2	Holbrook John G.			5,000	30 00
3	Holbrook Anthony	9,400	56 40		
3	Holbrook Daniel	18,400	110 40	400	2 40
4	Holbrook Henry M.	30,000	180 00	8,000	48 00
4	Holbrook Joseph	5,400	32 40	4,000	24 00
8	Holbrook Theodore			30,000	180 00
8	Holbrook, Carter & Co.			75,000	450 00
8	Holbrook & Dillon	18,600	111 60	3,000	18 00
8	Holbrook Samuel F.	4,400	26 40		
8	Holbrook Henry J.			10,000	60 00
11	Holbrook Charles C.			5,000	30 00
1	Holden Joel M.	6,400	38 40		
4	Holden & Bullard			5,000	30 00
5	Holden Thomas	17,000	102 00	300	1 80
9	Holden George	23,900	143 40		
7	Holker Nancy D.	32,000	192 00		
4	Holland John, heirs	24,000	144 00		
8	Holland Frederick W.	30,000	180 00		
10	Holland William A.			5,000	30 00
10	Holland Thomas	54,800	328 80	200	1 20
10	Holland Thomas H.	7,800	46 80		
11	Hollingsworth John M.	4,800	28 80		
1	Hollis Thomas	3,800	22 80	6,000	36 00
4	Holman Oliver & Co.			8,000	48 00
5	Holman Jonas W.	5,000	30 00	200	1 20
8	Holman G. C. & Evers			5,000	30 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
9	Holman R. W. & Co.			5,000	30 00
8	Holmbert John	7,000	42 00		
2	Holmes, Kelley & Co.	5,000	30 00	800	4 80
3	Holmes Augustus S., heirs	5,000	30 00		
4	Holmes Abiel, heirs	20,000	120 00		
5	Holmes Charles	16,400	98 40	5,000	30 00
7	Holmes Oliver W.	9,000	54 00	2,500	15 00
3	Holton John	4,000	24 00	400	2 40
3	Holton Leonard	8,000	48 00	400	2 40
7	Homans John	16,000	96 00	12,000	72 00
2	Homer George J. & C. W. & Co			23,000	138 00
2	Homer William F.			8,000	48 00
4	Homer John, heirs	4,400	26 40		
4	Homer Peter T.	14,000	84 00		
4	Homer George, heirs	3,000	18 00	6,000	36 00
4	Homer & Leighton			6,000	36 00
6	Homer Joseph W.	3,000	18 00	3,000	18 00
6	Homer Fitzhenry,	88,800	532 80	12,000	72 00
6	Homer Fitzhenry and N. P. Russell, trustees of Mrs. Shelton	56,600	339 60	50,000	300 00
6	Homer Fitzhenry and N. P. Russell, trustees of Mrs. Dixon	65,400	392 40	50,000	300 00
7	Homer David, heirs	5,000	30 00		
7	Homer George			8,000	48 00
8	Homer & Sprague			10,000	60 00
9	Homer George J.	27,800	166 80		
12	Homer Henry	4,400	26 40	600	3 60
11	Hoogs William H.	5,000	30 00	600	3 60
5	Hook Elias & Geo. G.	12,200	73 20	1,500	9 00
1	Hooper Henry N.	7,400	44 40		
2	Hooper Henry N. & Co.	25,000	150 00	20,000	120 00
2	Hooper Frederick T.			6,000	36 00
6	Hooper Robert	13,000	78 00	40,000	240 00
7	Hooper John	11,000	66 00		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
8	Hooper Robert C.			30,000	180 00
9	Hooper John	10,000	60 00		
9	Hooper Robert W.			20,000	120 00
9	Hooper Samuel			13,000	78 00
1	Hooton John	19,300	115 80		
10	Hopkins Solomon			5,000	30 00
6	Hoppin John	10,000	60 00	6,000	36 00
6	Horn & Sinclair	53,200	319 20		
10	Horr Luther	4,400	26 40	200	1 20
8	Horton & Cordis			15,000	90 00
2	Hosmer Calvin	3,500	21 00	8,000	48 00
8	Hosmer Zelotes			5,000	30 00
4	Houghton & Tucker			10,000	60 00
7	Hovey James G.			5,000	30 00
8	Hovey, Williams & Co.			30,000	180 00
12	How James, heirs	13,200	79 20		
12	How Hall J.	44,300	265 80	400	2 40
1	Howard John	12,400	74 40	4,000	24 00
2	Howard Eleazer, heirs	14,000	84 00		
4	Howard Benjamin	4,800	28 80		
4	Howard Jonathan	8,600	51 60	2,000	12 00
5	Howard Peter M.	6,000	36 00	600	3 60
7	Howard John C., heirs	37,000	222 00		
10	Howard Charles	5,600	33 60	400	2 40
1	Howe John	12,400	74 40		
4	Howe Joseph N., jr.	25,400	152 40	9,000	54 00
4	Howe Jabez C.	20,000	120 00		
5	Howe William	2,600	15 60	2,500	15 00
6	Howe Jubal	2,600	15 60	3,600	21 60
6	Howe George	107,000	642 00	35,000	210 00
7	Howe, Leonard & Co.			5,000	30 00
8	Howe Jabez C. & Co.			150,000	900 00
8	Howe William A. & Co.			15,000	90 00
8	Howe & Deblois			7,000	42 00
8	Howe John & Thomas	8,800	52 80		
9	Howe Thomas	6,400	38 40		
9	Howe George S.	4,400	26 40	200	1 20
10	Howe Elizabeth	5,600	33 60		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
10	Howe Thomas	44,000	264 40	22,000	132 00
10	Howe John	7,000	42 00		
11	Howe Joseph N.	14,000	84 00		
12	Howe Cranston	5,600	33 60		
2	Howes & Crowell			10,000	60 00
4	Howes Frederick	15,000	90 00		
4	Howes & Scudder			10,000	60 00
12	Howes Elisha	9,200	55 20	1,000	6 00
2	Howland & Hinckley			5,000	30 00
8	Howland & Pope			5,000	30 00
4	Hubbard Jane and others, trustees	80,800	484 80		
4	Hubbard William J., guardian	8,000	48 00		
4	Hubbard Charles	14,800	88 80	400	2 40
6	Hubbard & Sturgis	8,000	48 00		
6	Hubbard William J.	15,600	93 60	5,000	30 00
6	Hubbard William J., ex'r			18,000	108 00
7	Hubbard Jane	20,000	120 00		
7	Hubbard Sam'l, trustee	17,000	102 00		
7	Hubbard Samuel and others, trustees			500,000	3,000 00
10	Hubbard John C.	8,600	51 60	1,400	8 40
11	Hubbard Samuel	4,200	25 20		
1	Hudson Benjamin	7,800	46 80	2,000	12 00
1	Hudson Thomas	7,400	44 40	1,000	6 00
3	Hudson John	6,000	36 00		
4	Hudson Sumner	9,400	56 40		
4	Hudson Sumner & Co.			35,000	210 00
6	Hughes Frederick	3,200	19 20	4,000	24 00
9	Hughes Sarah	37,600	225 60		
10	Hughes George	5,200	31 20	5,000	30 00
1	Humphrey Almon	3,600	21 60	2,000	12 00
4	Humphrey Benjamin	87,600	525 60	90,000	540 00
4	Humphrey William	6,600	39 60	15,000	90 00
3	Hunneman William C. & Co.	8,000	48 00	2,000	12 00
2	Hunnewell John L. & Co.			12,000	72 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
9	Hunnewell H. Hollis	63,400	380 40	5,000	30 00
4	Hunt Samuel	5,400	32 40	2,500	15 00
6	Hunt Jane	5,600	33 60		
6	Hunt Thomas, trustee			6,000	36 00
7	Hunt Jane	15,000	90 00		
7	Hunt Charles J.	9,800	58 80	5,000	30 00
7	Hunt George H.	4,500	27 00	5,000	30 00
8	Hunting & Tufts			10,000	60 00
9	Hunting Bela	16,000	96 00		
11	Hunting Thomas	19,400	116 40	2,000	12 00
8	Huntington Ralph	28,400	170 40	10,000	60 00
11	Huntress Joseph F.	5,000	30 00	400	2 40
4	Hurd, Hutchins & Co.			20,000	120 00
5	Hurd Calvin	7,000	42 00	1,000	6 00
5	Hurlbert Samuel M.	7,200	43 20	5,000	30 00
2	Hurlbutt Elisha, heirs	9,800	58 80		
7	Huston & Robbins			5,000	30 00
7	Hutchins Ezra C.	10,000	60 00		
8	Hutchinson Andrew B.	5,000	30 00		
11	Hyde Michael S.	6,800	40 80	400	2 40
11	Hyde Leonard	6,600	39 60		
12	Hyslop David, heirs	5,000	30 00		
8	Iasigi & Goddard			30,000	180 00
12	Ibbotson Henry,	6,200	37 20		
4	Inches Henderson, jr.			8,000	48 00
7	Inches Elizabeth & S.	87,000	522 00	50,000	300 00
8	Inches Henderson	139,000	834 00	2,000	12 00
4	Ingalls William	38,000	228 00		
10	Ingalls William			10,000	60 00
5	Ingersoll Charles	9,400	56 40	20,000	120 00
8	Ingersoll James	23,400	140 40	20,000	120 00
1	Ingolls Moses	5,000	30 00	1,000	6 00
2	Ingolls Moses, guardian	6,000	36 00		
10	Ireland Jonathan, heirs	4,600	27 60		
4	Jackson Patrick T.	15,000	90 00	12,000	72 00
4	Jackson James	28,000	168 00	44,000	264 00
4	Jackson Charles T.	14,000	84 00	2,500	15 00
4	Jackson D. & C., heirs	29,000	174 00		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
5	Jackson Isaac	5,000	30 00	2,000	12 00
5	Jackson Ward	55,000	330 00		
5	Jackson Ward & Co.	5,000	30 00	12,000	72 00
6	Jackson Emeline			8,000	48 00
7	Jackson Charles	46,000	276 00	33,000	198 00
9	Jackson Charles, jr.			5,000	30 00
9	Jackson Charles, jr. and others, trustees			14,000	84 00
10	Jackson Francis	7,000	42 00	8,000	48 00
11	Jackson Edmund	6,000	36 00	8,000	48 00
11	Jackson E., guardian	5,800	34 80	4,000	24 00
11	Jackson Stephen W.	8,200	49 20	1,000	6 00
12	Jackson Eben	3,400	20 40	10,000	60 00
3	Jacobs George C.	5,000	30 00	1,000	6 00
4	Jacobs John	9,600	57 60		
4	Jacobs Loring	10,800	64 80		
4	Jacobs A. & H.	6,000	36 00	9,000	54 00
6	Jacobs Seth	5,400	32 40	400	2 40
8	Jacobs Elisha & Co.			5,000	30 00
8	James John W.	5,600	33 60	1,000	6 00
9	James Eunice	7,200	43 20		
12	James Benjamin	4,400	26 40		
10	Jameson Hugh	6,000	36 00	1,000	6 00
9	Jarves Deming	23,700	142 20	35,000	210 00
6	Jarvis Leonard	6,000	36 00		
2	Jeffries Catharine	6,000	36 00		
7	Jeffries John	18,100	108 60	5,000	30 00
5	Jellison Zacheriah	5,000	30 00	4,000	24 00
10	Jenkins Isaac	18,200	109 20	400	2 40
12	Jenkins Joshua	15,300	91 80	400	2 40
3	Jenks William	5,000	30 00	600	3 60
4	Jenks J. Henry	9,000	54 00		
7	Jenks & Palmer			10,000	60 00
8	Jenness, Gage & Co.			50,000	300 00
8	Jenness John S.			10,000	60 00
12	Jenney Stephen	3,000	18 00	4,000	24 00
3	Jennings Josiah A.	7,000	42 00	200	1 20
5	Jennison Mary	6,000	36 00	5,000	30 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
10	Jepson Samuel	5,800	34 80		
4	Jewett, Prescott & Co.			10,000	60 00
10	Jewett Nathaniel			15,000	90 00
2	Johnson, White & Jones			5,000	30 00
3	Johnson Ira	7,400	44 40	1,000	6 00
3	Johnson Daniel	13,800	82 80		
4	Johnson William	12,800	76 80		
4	Johnson Andrew J.			6,500	39 00
5	Johnson William	6,700	40 20		
6	Johnson Carver	5,400	32 40	400	2 40
8	Johnson & Shannon			5,000	30 00
8	Johnson, Sewall & Co.			75,000	450 00
8	Johnson James	28,000	168 00	10,000	60 00
9	Johnson Samuel	11,000	66 00	15,000	90 00
10	Johnson Edward	7,000	42 00	21,000	126 00
11	Johnson Abijah S.	25,000	150 00	200	1 20
4	Johonnot Oliver	6,800	40 80		
5	Johonnot A. Edwards			5,000	30 00
10	Johonnot Geo. & J. W. Treadwell, trustees	11,000	66 00		
10	Johonnot Charles H.	5,000	30 00		
1	Jones Charles	7,400	44 40		
2	Jones Lewis	5,400	32 40		
2	Jones F. & N.			10,000	60 00
4	Jones George B.			20,000	120 00
4	Jones John B.	8,900	53 40		
4	Jones Ephraim, heirs	9,000	54 00		
4	Jones Jonathan	2,000	12 00	5,000	30 00
5	Jones Henry	4,500	27 00		
5	Jones Eliphalet	9,000	54 00		
5	Jones Henry H.	8,000	48 00	12,000	72 00
6	Jones Anna P.	22,400	134 40	38,000	228 00
7	Jones Charles F.	18,000	108 00		
8	Jones William & Co.			20,000	120 00
8	Jones Josiah M.	27,000	162 00	30,000	180 00
9	Jones William	10,600	63 60		
12	Jones Samuel H. and others,	5,100	30 60		

Ward.	NAMES	Real.	Amount.	Personal.	Amount.
6	Jordan David	6,200	37 20	400	2 40
6	Joy Elizabeth	22,700	136 20		
6	Joy Hannah, heirs	8,800	52 80		
6	Joy Benjamin, heirs	89,000	534 00		
6	Joy Abigail, heirs	28,000	168 00		
6	Joy Joseph G.	21,000	126 00	20,000	120 00
6	Joy Joseph G., adm'r			25,000	150 00
6	Joy Nabby	12,000	72 00	35,000	210 00
5	Judkins Benjamin	5,000	30 00	1,500	9 00
2	Judson, Andrews & Co.			20,000	120 00
8	Kahler Jeremiah			5,000	30 00
3	Kast Thomas, heirs	31,600	189 60		
9	Kean James			11,000	66 00
5	Keating Hannah and A. W. Storer	7,000	42 00		
4	Keegan Patrick			20,000	120 00
7	Keep Nathan C.	12,000	72 00	3,000	18 00
7	Keep Nathan C., guardian	10,000	60 00		
3	Keith Elizabeth S., heirs	12,000	72 00		
10	Keith William	3,800	22 80	400	2 40
9	Kelley Philip & Thomas	5,000	30 00	600	3 60
9	Kelly John	7,200	43 20	200	1 20
5	Kelsey Albert H.	16,000	96 00		
3	Kendall Sewall	14,600	87 60	10,000	60 00
3	Kendall Henry A.	5,000	30 00		
3	Kendall E. & S.			20,000	120 00
4	Kendall George A.	13,000	78 00		
8	Kendall A. & G. A. & Co.			50,000	300 00
8	Kendall Hugh R.	15,000	90 00	15,000	90 00
8	Kendall A. & G. A.	23,000	138 00		
8	Kendall Theophilus P.	10,200	61 20	1,000	6 00
8	Kendall Jacob, heirs	10,000	60 00		
4	Kendrick, Trundy & Co.			30,000	180 00
4	Kendrick Rufus, adm'r			6,000	36 00
4	Kennedy John	18,000	108 00	600	3 60
5	Kennedy Thomas	21,800	130 80		
5	Kent William V.	7,500	45 00	15,000	90 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
2	Kidder & Co.			10,000	60 00
4	Kidder Jerome G.	300	1 80	30,000	180 00
5	Kidder Joseph	14,000	84 00	10,000	60 00
7	Kilham Jonathan	7,400	44 40	4,000	24 00
2	Kimball J. B. & Co.			12,000	72 00
4	Kimball David	58,800	352 80	5,000	30 00
5	Kimball Daniel	8,700	52 20		
5	Kimball Joseph	4,500	27 00		
7	Kimball J. William	8,000	48 00		
7	Kimball Eliphalet	16,600	99 60		
8	Kimball & Coburn			6,000	36 00
8	Kimball Daniel & Co.			15,000	90 00
8	Kimball, Jewett & Co.			25,000	150 00
10	Kimball J. Merrill	5,000	30 00		
10	Kimball John	5,800	34 80	2,200	13 20
4	King Benjamin	5,000	30 00	1,200	7 20
5	King Gedney, heirs	5,000	30 00		
7	King Carmi E. & Co.			7,000	42 00
7	King Charles G.	14,600	87 60	6,000	36 00
8	King E. & F. & Co.			25,000	150 00
10	King George W.	4,400	26 40	600	3 60
3	Kingman George	5,400	32 40	1,600	9 60
7	Kingman Abner	27,000	162 00		
3	Kingsbury Jesse	54,400	326 40	12,000	72 00
9	Kingsbury Thomas N.	4,600	27 60	12,000	72 00
11	Kingsbury Asa, heirs	10,800	64 80		
5	Kingsley Elias	12,200	73 20	1,000	6 00
6	Kingsley Joseph	4,800	28 80		
10	Kingsley & Wheeler	4,400	26 40		
10	Kingsley Nathan P.	7,600	45 60	200	1 20
4	Kinsman Henry W.	12,000	72 00		
3	Kittredge Jeremiah	16,400	98 40	16,000	96 00
4	Kittredge & Blakes			50,000	300 00
2	Knapp Jesse	4,000	24 00	800	4 80
10	Knapp Josiah, heirs	61,000	366 00		
3	Kneeland Samuel	4,400	26 40	7,000	42 00
3	Knight Manasseh	6,000	36 00	10,000	60 00
7	Knott James, jr.	13,200	79 20		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
4	Knowles Seth, heirs	36,000	216 00		
4	Knowlton Abraham	8,800	52 80		
5	Knox Charles H.	6,000	36 00	500	3 00
4	Kramer Matthias & Co.	20,000	120 00	10,000	60 00
10	Kramer Matthias	5,000	30 00		
4	Kuhn Ann			5,000	30 00
6	Kuhn Sarah	5,500	33 00		
6	Kuhn John	13,400	80 40		
6	Kuhn George H.	16,000	96 00	40,000	240 00
9	Kupfer Charles F.	16,600	99 60	35,000	210 00
11	Kurr Lawrence H.	4,000	24 00	600	3 60
10	Kurtz John E.	7,400	44 40	2,000	12 00
8	Ladd Bela O. heirs	11,200	67 20		
5	Lakeman Moses B.	8,700	52 20		
10	Lakin Loammi B.	5,000	30 00	200	1 20
4	Lamb Edward			5,000	30 00
4	Lamb Thomas	87,600	525 60	25,000	150 00
4	Lamb Thomas, guardian and trustee			17,000	102 00
7	Lamb Rosanna			10,000	60 00
8	Lamb & Hanson			5,000	30 00
5&8	Lambert Susan, hr's	25,000	150 00		
5&8	Lambert & Edwards			7,000	42 00
4	Lamson & Edmonds			7,000	42 00
4	Lamson Benjamin	32,200	193 20	3,000	18 00
6	Lamson John	33,000	198 00	6,000	36 00
2	Land Nicholas	5,600	33 60	1,000	6 00
2	Lane & Worster			18,000	108 00
3	Lane Samuel	6,000	36 00	1,000	6 00
4	Lane & Read			40,000	240 00
5	Lane William H.	25,900	155 40	500	3 00
5	Lane George	14,800	88 80		
7	Lane Jonas H.			6,000	36 00
8	Lane, Lamson & Co.			40,000	240 00
8	Lane Jonathan	2,600	15 60	2,000	12 00
8	Lang John	5,000	30 00	1,000	6 00
8	Lang William B.			10,000	60 00
10	Lang William			5,000	30 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
8	Langdon John W. & Co.			7,000	42 00
8	Langley & Abbott			8,000	48 00
3	Langmaid Samuel P.	3,700	22 20	1,000	6 00
8	Lard Oil Co.			10,000	60 00
4	Larkin Mary			6,000	36 00
4	Larkin Ebenezer, heirs	6,000	36 00		
1	Lash Robert	3,000	18 00	3,600	20 40
12	Lavey Ann	6,000	36 00		
3	Lawrence Manufacturing Co.	22,800	136 80		
3	Lawrence Manufacturing Co. and others	22,600	135 60		
4	Lawrence Lucy			7,000	42 00
4	Lawrence William	295,000	1,770 00	100,000	600 00
5	Lawrence Joshua	45,500	273 00	1,200	7 20
6	Lawrence William R.	7,000	42 00		
7	Lawrence Abbott	385,400	2,312 40	170,000	1,020 00
7	Lawrence Amos	167,000	1,002 00	120,000	720 00
8	Lawrence A. & A. & Co.			250,000	1,500 00
8	Lawrence & Stone			50,000	300 00
7	Lawson & Harrington			11,000	66 00
4	Leach & Co.			10,000	60 00
5	Leach Mary	5,000	30 00		
8	Leach & Chandler			5,000	30 00
11	Leach Studson	5,000	30 00	200	1 20
1	Learnard William H.	3,800	22 80	1,600	9 60
5	Lear Peter	5,600	33 60	1,000	6 00
10	Leatherbee James W.	7,000	42 00	400	2 40
10	Leavitt H. H. & G. C. Beckwith	19,400	116 40		
4	Lee Jeremiah	9,000	54 00	5,000	30 00
6	Lee Kitty	5,000	30 00		
6	Lee Mary Ann			5,000	30 00
7	Lee Thomas	26,000	156 00		
8	Lee James & Co.			5,000	30 00
9	Lee Joseph, heirs	16,000	96 00		
9	Lee Henry	30,000	180 00		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount
9	Lee Sarah and Rebecca	6,000	36 00	17,000	102 00
11	Lee Nancy	9,000	54 00		
1	Leeds Henry	3,600	21 60	4,000	24 00
2	Leeds Samuel & Co.			5,000	30 00
3	Leeds & Cheever	16,000	96 00		
4	Leeds James, jr. & T. C. Leeds	15,000	90 00		
9	Leeds James jr.	40,000	240 00	10,000	60 00
11	Leeds Timothy C.	7,000	42 00		
12	Leeds Samuel	25,000	150 00		
5	Leighton Charles	13,400	80 40	5,000	30 00
6	Leitner Catherine	7,000	42 00		
11	Leland Caleb W.	10,600	63 60		
3	Lemaire Lewis	3,800	22 80	1,000	6 00
8	Leman John	1,600	15 60	2,000	12 00
8	Lemist George H. & Co.			5,000	30 00
9	Lepean John	6,600	39 60		
5	Lerow Lewis	6,600	39 60	200	1 20
2	Lewis's Wharf Corporation	361,000	2,166 00		
4	Lewis Asa	5,300	31 80		
4	Lewis A. S. & W. G.			20,000	120 00
5	Lewis John	16,000	96 00	1,000	6 00
5	Lewis George W.	8,500	51 00	10,000	60 00
6	Lewis Gabriel E.	5,600	33 60		
8	Lewis Thomas & Co.			10,000	60 00
8	Lewis & Clapp			5,000	30 00
9	Lewis Joseph	9,000	54 00		
10	Lewis Winslow	16,200	97 20		
6	Libbey Joseph	23,200	139 20	15,000	90 00
1	Libby G. L.	5,200	31 20	1,000	6 00
8	Liberty Square Warehouse Corporation	156,000	936 00		
3	Lilley John	20,400	122 40	2,000	12 00
1	Lillie Daniel, heirs	4,200	25 20		
1	Lincoln Warren	4,600	27 60	8,000	48 00
1	Lincoln Noah	49,000	294 00		
2	Lincoln Noah & Son			10,000	60 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
2	Lincoln Beza			5,000	30 00
4	Lincoln Henry	10,000	60 00		
5	Lincoln Heman	7,600	45 60		
6	Lincoln & Taylor	9,000	54 00	800	4 80
6	Lincoln Ezra	3,000	18 00	8,000	48 00
6	Lincoln Joseph, jr.			5,000	30 00
6	Lincoln Joseph	23,200	139 20		
7	Lincoln & Reed			12,000	72 00
7	Lincoln Minor S. and others	5,000	30 00		
7	Lincoln Miner S.	9,000	54 00	5,000	30 00
7	Lincoln Miner S. & Co.			25,000	150 00
8	Lincoln Henry & Co.			5,000	30 00
9	Lincoln Jairus B.	12,000	72 00	36,000	216 00
10	Lincoln Henry E.	4,000	24 00	3,000	18 00
7	Litch Jeremiah	2,600	15 60	2,500	15 00
5	Litchfield Allen	5,800	34 80	200	1 20
1	Little & Lunt	4,800	28 80		
4	Little Nicholas	18,300	109 80	2,000	12 00
5	Little Charles C.	27,800	166 80		
7	Little Alden & Co.			30,000	180 00
7	Little & Brown			25,000	150 00
4	Littlehale Sargent S.	10,800	64 80	25,000	150 00
6	Livermore Thomas			14,000	84 00
8	Livermore Isaac	56,000	324 00		
8	Livermore Isaac & Co.			12,000	72 00
8	Livermore Aaron			6,000	36 00
8	Liverpool Wharf Co.	32,000	192 00		
7	Loyd Anna			30,000	180 00
8	Lobdell Thomas J.	62,100	372 70	5,000	30 00
4	Locke Oliver	10,000	60 00	4,500	27 00
4	Locke Lyman	2,000	12 00	5,000	30 00
4	Locke Philip A.			10,000	60 00
4	Locke & Treadwell			5,000	30 00
4	Locke Stephen	21,200	127 20	2,000	12 00
11	Locke Charles B.	5,800	34 80	400	2 40
11	Locke Lewis	11,400	68 40	200	1 20
2	Lodge James			5,000	30 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
9	Lodge John E.	22,000	132 00		
10	Lodge Giles	112,900	677 40	10,000	60 00
2	Lombard Ammi C. & Co.			25,000	150 00
2	Lombard & Whittemore			50,000	300 00
3	Lombard Loring L.	5,000	30 00	1,000	6 00
4	Lombard Ephraim	7,600	45 60		
4	Lombard Nath'l K.	18,800	70 80	1,000	6 00
6	Lombard Ammi C.	19,300	115 80		
10	Lombard Israel	17,000	102 00		
5	Longley James			35,000	210 00
4	Lord Melvin	43,200	259 20	20,000	120 00
6	Lord Thomas	8,000	48 00		
7	Lord & Cumston			5,000	30 00
8	Lord Thomas & Co.			10,000	60 00
9	Lord Daniel W.			6,000	36 00
1	Loring Jonathan	5,000	30 00		
1	Loring Betsy & Lydia	3,600	21 60	10,000	60 00
2	Loring & Winchester			5,000	30 00
3	Loring John G. & Co.	36,900	221 40	8,000	48 00
4	Loring John J. and T. W. Phillips, trustees	6,000	36 00		
4	Loring Charles G.	14,000	84 00	14,000	84 00
4	Loring Charles G. and F. C. Loring, trustees Mrs. Loring	18,000	108 00	16,000	96 00
4	Loring Charles G. and F. C. Loring, trustees Mrs. Hammond	34,000	204 00	105,000	630 00
4	Loring Chas. G. ex'r of Hartt			8,000	48 00
4	Loring Caleb	30,000	180 00	37,000	222 00
4	Loring Caleb G. & Co.			40,000	240 00
4	Loring Benj. & Co.	25,000	150 00	40,000	240 00
4	Loring Thomas	6,000	36 00		
5	Loring Peres	9,500	57 00	800	4 80
5	Loring John G.	7,200	43 20		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
6	Loring & Andrews, trustees	17,800	106 80		
6	Loring John W.	5,300	31 80		
6	Loring Francis C.			10,000	60 00
6	Loring John F.	5,000	30 00	42,000	252 00
6	Loring William J.			6,000	36 00
6	Loring & Reynolds, trustees	20,000	120 00		
7	Loring James	5,000	30 00	12,000	72 00
7	Loring George			6,000	36 00
7	Loring Ellis G.	68,300	409 80	15,000	90 00
7	Loring Ellis G., adm'r			20,000	120 00
7	Loring Edward G.	15,000	90 00	5,000	30 00
9	Loring Elisha T.	7,000	42 00	10,000	60 00
9	Loring Henry	19,800	118 80	600	3 60
9	Loring Benjamin	22,000	132 00	30,000	180 00
9	Loring Henry	11,000	66 00		
10	Loring Caleb G.	5,600	33 60		
10	Loring Elijah	37,000	222 00	57,000	342 00
10	Loring John J. and T. W. Phillips, trustees	5,000	30 00		
10	Loring James S.	6,000	36 00	3,000	18 00
11	Loring Relief	12,200	73 20		
5	Lothrop Stillman	17,000	102 00		
11	Lothrop Ansel	6,200	37 20	400	2 40
9	Loud Samuel P., guardian	19,400	116 40		
2	Lougee Charles F.	7,000	42 00		
1	Lovejoy & Eaton			10,000	60 00
5	Lovejoy Loyal	4,500	27 00		
4	Lovejoy Wm. R.	8,300	49 80	5,000	30 00
10	Lovering Wm. heirs	42,400	254 40		
11	Lovering Joseph	57,400	344 40	75,000	450 00
6	Lovett Charles W.	6,600	39 60	2,000	12 00
9	Lovett Josiah 2d and others	9,400	56 40		
1	Low George	9,200	55 20	3,000	18 00
1	Low Abijah P.	4,200	25 20		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
5	Low John	5,200	31 20	400	2 40
7	Low David, heirs	6,000	36 00		
8	Low Moses			5,000	30 00
8	Lowe Abraham T,	10,000	60 00	30,000	180 00
3	Lowell Manufacturing Co.	15,200	91 20		
4	Lowell John A.	48,000	288 00	110,000	660 00
4	Lowell John A., trustee			10,500	63 00
4	Lowell John A. and E. Brooks, trustees Mrs. Boot			12,000	72 00
6	Lowell Francis C.	57,400	344 40		
7	Lowell John, heirs	15,000	90 00		
8	Lowry Wm.			5,000	30 00
7	Lows, Ball & Co.			60,000	360 00
3	Lucre Susannah	8,200	49 20		
7	Lunt William P.	18,000	108 00		
5	Luther Slade	15,300	91 80	600	3 60
9	Lyford Gideon C.			5,000	30 00
3	Lyman Joseph jr.	46,000	276 00	2,000	12 00
6	Lyman Charles	15,000	90 00	40,000	240 00
7	Lyman George W.	84,000	504 00	94,000	564 00
7	Lyman George W., trustee			6,000	36 00
7	Lyman George W., guardian			5,000	30 00
7	Lyman Theodore	52,000	312 00	83,000	498 00
7	Lyman Theodore, guardian			65,000	390 00
2	Lyons Susan G., heirs	6,000	36 00		
9	Lyons Elizabeth	5,000	30 00		
4	Mackay Joseph	7,500	45 00	17,000	102 00
4	Mackay Fanny			24,000	144 00
4	Mackay Frances and Caroline	20,600	123 60		
4	Mackay Frances			35,000	210 00
4	Mackay Caroline			35,000	210 00
4	Mackay Wm. H.	2,400	14 40	75,000	450 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
7	Mackay Robert C.			40,000	240 00
7	Mackay John, heirs	6,000	36 00		
8	Mackintire & Co.			15,000	90 00
5	Mackintosh Peter	27,400	164 40		
8	Macomber Sawin & Hunting	13,000	78 00		
8	Macomber Wm. & Co.			5,000	30 00
10	Macomber Ichabod, jr	5,800	34 80		
10 & 12	Macomber Ichabod,	22,200	133 20		
10	Magner Robt., heirs	4,400	26 40		
3	Mahan Benjamin F.	3,200	19 20	1,000	6 00
2	Mahony John J.			6,000	36 00
1	Mair Thomas	15,600	93 60	400	2 40
8	Mandell, Drinkwater & Co.			15,000	90 00
4	Manly, Bramhall & Co.	9,000	54 00	10,000	60 00
4	Mann Wm. H.	2,600	15 60	7,000	42 00
5	Mann Briggs	6,500	39 00	400	2 40
6	Mann Joseph	7,000	42 00	1,600	9 60
9	Mann Peleg, heirs	15,200	91 20		
4	Manning, Glover & Clark			10,000	60 00
8	Manning F. C. & J. & Co.			30,000	180 00
8	Mansfield Isaac, trustee	11,000	66 00		
9	Mansur Samuel			8,000	48 00
11	Marble James S.	26,000	156 00	200	1 20
3	March Robert	9,000	54 00	3,000	18 00
7	Marett Philip	23,000	138 00	15,000	90 00
7	Marett Philip, trustee			7,000	42 00
2	Marjoram Wm. W.	6,000	36 00	1,600	9 60
7	Marlboro' Chapel corporation	75,000	450 00		
5	Marsh James, heirs	5,400	32 40		
6	Marsh Joseph M. guard.			9,000	54 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
7	Marsh John			7,000	42 00
9	Marsh John	10,000	60 00	2,000	12 00
10	Marsh Andrew	26,200	157 20		
10	Marsh Bela	3,400	20 40	600	3 60
11	Marsh Ephraim	83,500	501 00	1,000	6 00
11	Marsh Ephraim & F. C. Lowell	4,400	26 40		
7	Marshall William	23,000	138 00	5,000	30 00
7	Marshall Josiah, heirs	26,400	158 40		
7	Marshall Rachel, heirs	10,000	60 00		
5	Marston William, heirs	5,500	33 00		
12	Martin Richard	84,300	505 80	2,000	12 00
7	Marvin Theophilus R.			5,000	30 00
3	Mason Ephraim B	3,600	21 60	3,000	18 00
4	Mason Lowell	9,000	54 00		
6	Mason William P.	99,000	594 00	20,000	120 00
6	Mason Wm. P., trust	18,600	111 60	10,000	60 00
6	Mason Jonathan	30,000	180 00	5,000	30 00
7	Mason Jeremiah	28,000	168 00	34,000	204 00
8	Mason & Lawrence			50,000	300 00
10	Mason & Luke	4,400	26 40		
11	Mason Newell P.	4,200	25 20		
11	Mason Cyrus	23,000	138 00		
3	Massachusetts Cotton Mills	15,200	91 20		
4	Massachusetts General Hospital	13,000	78 00		
4	Massachusetts Bank	89,000	534 00		
4	Massachusetts Hospital Life Insurance Co.	68,000	408 00		
8	Massachusetts Fire and Marine Ins. Co.	50,000	300 00		
3	Matchett William P.	6,900	41 40		
11	Mather Ozias H.	10,400	62 40		
9	Maxwell Edward	30,200	181 20	600	3 60
8	May Samuel	75,000	450 00	110,000	660 00
8	May Samuel & Co.			70,000	420 00
10	May Perrin	55,600	333 60	200,000	1,200 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
11	May George	15,000	90 00	15,000	90 00
4	Mayer Philip J.	2,200	13 20	2,000	12 00
4	Maynard & Noyes			8,000	48 00
8	Maynard Lambert	6,600	39 60	1,700	10 40
10	Maynard Jesse	7,400	44 40	2,000	12 00
10	Maynard Charles	5,000	30 00	600	3 60
11	Mayo John M.	15,000	90 00		
5	McAllaster James	11,000	66 00	1,000	6 00
1	McCleary John B.	3,600	21 60	5,000	30 00
3	McCleary Samuel F.	6,000	36 00	1,000	6 00
7	McClinch Elizabeth, heirs	8,000	48 00		
8	McClare Alexander W.	4,400	26 40		
3	McConnell Robert & Co.			5,000	30 00
1	McDonald Henry	4,400	26 40	400	2 40
8	McGregor James & Co.			18,000	108 00
8	McIntire Charles	11,000	66 00	1,000	6 00
1	McKay	8,300	49 80	400	2 40
5	McKay Laughlin	5,000	30 00		
10	McKay William P.	4,600	25 20		
11	McLaughlin Daniel	4,600	27 60		
6	McLean John, heirs	26,000	144 00		
2	McLellan Isaac	42,600	255 60		
4	LcLellan Isaac, and othothers, trustees	8,600	51 60	6,000	36 00
9	McLellan Wm. H. & W. S. Eaton, trustees,	9,000	54 00		
8	Means & Clark			15,000	90 00
8	Means James			15,000	90 00
5	Mears Granville	6,000	36 00		
7	Mears Elijah	5,000	30 00	10,000	60 00
7	Mears & Smith			10,000	60 00
12	Mechanics' Bank	20,200	121 60	10,000	60 00
12	Mein Andrew	3,800	22 80	400	2 40
1	Melcher Levi	10,000	60 00	5,000	30 00
16	Melledge James P., executor			10,000	60 00
2	Mellen & Hopkins			12,000	72 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
4	Mellen Michael & Co.			20,000	120 00
4	Mellen Michael	5,600	33 60		
6	Mellen Moses	5,400	32 40		
2	Mercantile Wharf Corporation	229,000	1,374 00		
4	Merchants' Bank	120,000	720 00	66,000	396 00
7	Merchants' Ins. Co.	98,000	588 00		
8	Meredith H. & Co.			10,000	60 00
4	Meriam S. & W.			15,000	90 00
5	Meriam Jonas, jr	9,600	57 60		
5	Meriam Nathaniel	5,000	30 00	8,000	48 00
9	Meriam William, heirs	7,400	44 40		
10	Meriam Charles D.	7,000	42 00		
7	Merriam Charles			8,000	48 00
9	Merriam Joseph W.	9,000	54 00	2,000	12 00
10	Merriam Galen	38,400	230 40		
7	Merrick Pliny			5,000	30 00
3	Merrill John	4,000	24 00	400	2 40
6	Merrill James C.	9,000	54 00	4,000	24 00
3	Merrimack Manufacturing Co.	22,800	136 80		
7	Messer & Co.			5,000	30 00
10	Messer Stillman	9,600	57 60	1,000	6 00
7	Messinger Daniel	13,400	80 40	1,000	6 00
8	Messinger & Richardson			15,000	90 00
3	Metcalf Marcus A.	24,000	144 00	400	2 40
4	Metcalf Theodore			6,000	36 00
5	Metcalf Caleb	8,000	48 00	1,000	6 00
2	Milk John	3,200	19 20	800	4 80
10	Millard Samuel	31,800	190 80	200	1 20
2	Miller Moses	6,800	40 80	400	2 40
7	Miller Caroline			17,000	102 00
7	Miller Charles E.			17,000	102 00
9	Miller Edward, heirs	13,000	78 00		
9	Miller Hannah	17,000	102 00	25,000	150 00
10	Miller Joseph K.	13,400	80 40		
10	Miller George	4,600	27 60	200	1 20
11	Miller & Dorr	4,000	24 00	2,000	12 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
11	Miller & Sickles			10,000	60 00
2	Milliken E. C. & Co.			10,000	60 00
10	Milliken Ebenezer C.	10,200	61 20		
2	Mills James K.	6,400	38 40		
7	Mills James K. & Co.	24,000	144 00	70,000	420 00
7	Mills James K. & C. H. Mills, trustees	23,000	138 00		
2	Milton Ephraim	7,400	44 40	1,500	9 00
4	Milton & Slocumb	25,600	153 60	40,000	240 00
6	Milton William H.	8,000	48 00		
4	Minns Susan			6,000	36 00
8	Minns Thomas, heirs	60,000	360 00		
3	Minot William guardian, Slade's heirs	29,000	174 00		
4	Minot Wm. guardian	21,400	128 40		
6	Minot Wm. & H. B. Rogers, trustees	52,400	314 40		
6	Minot George R.	9,000	54 00		
6	Minot William	94,000	564 00	7,000	42 00
6	Minot Wm., executor J. Randall			17,000	102 00
6	Minot Wm., adm'r A. P. Cleveland			8,000	48 00
8	Minot & Hooper			20,000	120 00
12	Minot Jonathan			23,000	138 00
2	Mitchell Wm. & Co.			17,000	102 00
3	Mitchell Elizabeth	6,000	36 00		
5	Mitchell William	6,500	39 00		
8	Mitchell N. & Sons			6,000	36 00
8	Mixer & Pitman			10,000	60 00
7	Molineux & Messinger	3,400	20 40	3,000	18 00
5	Moncrief Joseph	4,500	27 00		
12	Monks John P.	11,800	70 80	10,000	60 00
1	Montague William H.	7,000	42 00		
5	Moody William	4,000	24 00	700	4 20
1	Moore Abraham M.	4,000	24 00	5,000	30 00
5	Moore Charles	50,800	304 80	2,000	12 00
5	Moore Martin	6,000	36 00	1,000	6 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
5	Moore Calvin G.	4,500	27 00	1,000	6 00
7	Moore Sydney B.	7,000	42 00		
8	Moore Joseph	5,000	30 00		
12	Moore Horace W.	5,400	32 40		
7	Morey George	6,600	39 60	22,000	132 00
7	Morey George, trustee	12,500	75 00	105,000	630 00
12	Morrill James			40,000	240 00
4	Morse Elijah, heirs	9,000	54 00		
4	Morse R. M. & Co.			15,000	90 00
6	Morse John T.			5,000	30 00
7	Morse Samuel F. & Co.	5,800	34 80	60,000	360 00
9	Morse Samuel F.	12,000	72 00		
9	Morse Hazen	5,400	32 40		
10	Morse S. F. & S. B.	5,000	30 00		
10	Morse Leonard	8,000	48 00		
10	Morse Daniel P.	6,800	40 80		
9	Morton Andrew	4,800	28 80	4,000	24 00
10	Morton Otis	8,000	48 00		
11	Morton Joseph, heirs	37,300	223 80		
11	Morton Ebenezer	11,400	68 40	400	2 40
11	Morton Josephus	8,800	52 80	400	2 40
7	Moseley David C.	65,000	390 00	35,000	210 00
3	Mosman Rufus	7,100	42 60	3,000	18 00
8	Motley Tho's & Edw'd	6,600	39 60		
10	Motley William W.	10,000	60 00	2,000	12 00
11	Motley Tho's, jr. and others	9,000	54 00		
3	Moulton Thomas	8,900	53 40	400	2 40
12	Mount Washington Corporation	16,800	100 80		
3	Mower Samuel F.	5,000	30 00	7,000	42 00
11	Mull Jacob	4,600	27 60		
1	Munroe Abel B.	16,200	97 20	2,000	12 00
2	Munroe William	3,900	23 40	5,000	30 00
3	Munroe Washington	6,000	36 00	12,000	72 00
5	Munroe Otis			5,000	30 00
6	Munroe Edmund	7,400	44 40	1,000	6 00
7	Munroe James & Co.			10,000	60 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
7	Munroe & Francis			8,000	48 00
4	Murdock & Bullard			5,000	30 00
5	Murdock Amasa, jr. heirs	8,000	48 00		
7	Murphy Elizabeth	9,000	54 00		
3	Mussey Benjamin B.	23,700	142 20	15,000	90 00
5	Mycall John, heirs	4,500	27 00		
1	Nash Joshua, heirs	11,200	67 20		
4	Nash Israel & Co.			30,000	180 00
2	Nason Joel	6,400	38 40		
7	National Insurance Co.	68,400	410 40		
9	Nazro Charles G.	11,000	66 00		
9	Nazro Henry J.	7,000	42 00	1,000	6 00
9	Nazro John			8,000	48 00
10	Nazro John G.			10,000	60 00
3	Neagle William	19,800	118 80	200	1 29
6	Neal Samuel	16,000	96 00	400	2 40
1	Neally Charles H.			5,000	30 00
3	Neat Nathan	10,200	61 20	5,000	30 00
5	Nelson James	5,400	32 40		
12	Nelson Henry W.	5,800	34 80	400	2 40
1	Newcomb Norton	9,600	57 60	1,500	9 00
2	Newcomb Charles			5,000	30 30
10	Newcomb Bryant	22,800	136 80		
8	Newell Josiah, jr.			5,000	30 00
8	Newell Montgomery			12,000	72 00
10	Newell Jeremiah G.	13,000	78 00	4,000	24 00
8	New England Bank	74,000	444 00	19,000	114 00
2	Newhall Cheever & Co.			30,000	180 00
8	Newhall John M.	10,000	60 00		
11	Newhall Daniel B.	5,800	34 80		
1	Nichols Smith W.	7,800	46 80	400	2 40
2	Nichols Charles C.	10,000	60 00		
3	Nichols Luther W.	5,600	33 60		
4	Nichols Thaddeus	18,200	109 20	3,000	18 00
4	Nichols Ebenezer B. heirs	7,900	47 40		
4	Nichols Lawrence	25,700	154 20	17,000	102 00
6	Nichols Timothy S.	11,000	66 00		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
8	Nichols, Pierce & Co.			60,000	360 00
8	Nichols & Whitney			30,000	180 00
9	Nichols Benj. R.	81,700	490 20		
9	Nichols Martha S.	27,200	163 20		
10	Nichols Eleazer	13,200	79 20	600	3 60
10	Nichols Sarah	11,000	66 00	35,000	210 00
10	Nichols Frederick	3,600	21 60	400	2 40
2	Nickerson & Co.			10,000	60 00
2	Nickerson D. & F.			18,000	108 00
8	Nickerson E. A. & Sisters	4,400	26 40		
12	Nickerson Joseph	2,800	16 80	3,000	18 00
12	Nickerson David	5,800	34 80		
9	Nicholson Samuel	18,800	112 80	4,000	24 00
7	Neibuhr Henry	4,000	24 00	2,000	12 00
7	Nightingale James	17,500	105 00		
7	Niles William J.	50,000	300 00		
7	Niles Wm. J. & Co.			15,000	90 00
8	Niles Thomas	16,000	96 00	5,000	30 00
1	Noble Thos., heirs	4,800	28 80		
4	Noble Joseph	18,300	109 80	40,000	240 00
4	Norcross Otis & Co.			50,000	300 00
8	Norcross & Wood			8,000	48 00
6	Norris Shepherd H.			12,000	72 00
2	North Bank	17,000	102 00		
8	Norton Andrews	11,000	66 00		
1	Nottage Samuel C.	10,800	64 80	400	2 40
11	Nowell George	18,400	110 40	200	1 20
1	Noyes Joseph	24,600	147 60	1,000	6 00
2	Noyes & Adams			5,000	30 00
1	Oakes Josiah	8,200	49 20		
9	Oakes James			10,000	60 00
10	Oakes George L.			5,000	30 00
1	Ober John P.	6,000	36 00	600	3 60
4	Odin George	129,100	774 60	6,000	36 00
10	Odiorne George	10,000	60 00	2,000	12 00
8	Oliphant & Co.			15,000	90 00
1	Oliver Henry J.	45,400	272 40		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount
1	Oliver Samuel P.	4,600	27 60	2,600	15 60
3	Oliver Susan	4,200	25 20		
3	Oliver William B.	4,000	24 00	1,600	9 60
4	Oliver Mary R.	12,000	72 00	20,000	120 00
6	Oliver Francis J.	19,400	116 40		
6	Oliver Francis J., trustee			7,000	42 00
9	Oliver Eben'r, heirs	42,400	254 40		
4	Olmstead Francis	45,000	270 00		
5	Orne William	3,800	22 80	1,000	6 00
9	Orr Robert	19,400	116 40	20,000	120 00
10	Orr David	5,400	32 40		
2	Osborne David	7,000	42 00		
6	Osborne George B.	28,100	168 60		
7	Osborne Wyman	7,000	42 00	1,500	9 00
12	Osborne John, guardian	4,900	29 40		
4	Osgood Isaac			10,000	60 00
4	Osgood Isaac P.	13,600	81 60	3,000	18 00
7	Osgood David	9,000	54 00	800	4 80
8	Osgood Lemuel H.	5,000	30 00		
2	Otheman Bartholomew	7,000	42 00		
2	Otheman Susanna	5,200	31 20		
3	Otheman Edwin	6,000	36 00		
4	Otis Elizabeth	4,000	24 00	36,000	216 00
4	Otis Theodore	7,000	42 00	1,500	9 00
4	Otis Harrison G. & S. Fales	8,400	50 40		
5	Otis George W.	11,600	66 00	1,000	6 00
6	Otis Cushing, heirs	12,200	73 20		
6	Otis Harrison G.	291,300	1,747 80	40,000	240 00
6	Otis William F.	27,000	162 00	4,000	24 00
6	Otis William F. ex'r			7,000	42 00
6	Otis Wm. F., guardian			8,000	48 00
6	Otis Mary	19,000	114 00	2,000	12 00
7	Otis Broaders & Co.			7,000	42 00
8	Otis Harrison G. jr., heirs	10,000	60 00		
10	Otis James	31,400	188 40		
4	Oxnard Henry, heirs	22,000	132 00		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount
6	Packard Silvanus	44,000	264 00	1,000	6 00
6	Packard Isaac	43,200	259 20		
1	Page, Thomas, heirs	5,000	30 00		
1	Page Mary	5,400	32 40		
2	Page Kilby	10,000	60 00		
4	Page Henry A.	9,000	54 00		
4	Page James	19,000	114 00	10,000	60 00
6	Page Bela B., heirs	7,800	46 80		
6	Page Calvin	35,200	211 20	5,000	30 00
6	Page John A.	6,200	37 20	1,000	6 00
11	Page Gilman & J. W.	9,400	56 40		
11	Page Gilman	4,200	25 20	200	1 20
8	Paige and Hall			10,000	60 00
9	Paige James W.	33,800	202 80		
9	Paige James W. and A. Cotting, trustees J. B. Joy	13,900	83 40		
6	Paine Sarah S.	5,000	30 00		
8	Paine Elias B.			5,000	30 00
9	Paine Robert T.			15,000	90 00
9	Paine Robert T., trustee	6,000	36 00	4,000	24 00
9	Paine Charles C.	16,000	96 00	1,000	6 00
9	Paine Robert T. and others	6,000	36 00		
10	Paine James H.	12,000	72 00	15,000	90 00
2	Palmer Ezra	15,000	90 00		
2	Palmer Simeon & Ezra	14,000	84 00		
3	Palmer Julius A.	5,000	30 00		
4	Palmer Simeon	25,400	152 40	20,000	120 00
8	Palmer & Stevens			5,000	30 00
7	Park street Cong'l Society	10,000	60 00		
7	Parks Elisha	66,000	396 00		
8	Parks & Bartlett & Co.			20,000	120 00
9	Parks, Wright & Co.			50,000	300 00
1	Parker Robert A.	1,800	10 30	2,500	15 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
1	Parker Jonathan	24,700	148 20	6,000	36 00
2	Parker & Brother			5,000	30 00
3	Parker David	4,600	27 60	1,000	6 00
4	Parker Benjamin	8,000	48 00		
4	Parker Charles Albert			5,000	30 00
4	Parker James	84,400	506 40	260,000	1,560 00
4	Parker John & Wm. Shimmin, trustees of Mrs. Shimmin	109,600	657 60	170,000	1,020 00
4	Parker John & Wm. Shimmin, accumulating fund			145,000	870 00
4	Parker John & Wm. Shimmin, trustees	49,800	298 80		
4	Parker John, heirs	15,000	90 00		
4	Parker William O.	7,000	42 00	10,000	60 00
4	Parker William T.			5,000	30 00
5	Parker William	8,000	48 00	600	3 60
6	Parker Samuel D.	45,200	271 20	10,000	60 00
6	Parker Daniel P.	67,600	405 60	115,000	690 00
6	Parker Peter	86,200	517 20	240,000	1,440 00
7	Parker Isaac	11,400	68 40		
7	Parker Harvey D.			5,000	30 00
7	Parker Charles Henry	4,400	26 40	500	3 00
7	Parker Charles	42,200	253 20		
7	Parker John	81,200	487 20		
7	Parker Samuel H.	6,000	36 00		
8	Parker, Wilder & Parker			30,000	180 00
8	Parker Benjamin	8,600	51 60		
8	Parker Nathaniel, heirs	5,000	30 00		
9	Parker William	9,000	54 00	20,000	120 00
9	Parker Nathaniel	4,400	27 60	400	2 40
9	Parker Eber	7,400	44 40	4,000	24 00
10	Parker Luther, heirs	7,000	42 00		
10	Parker Charles H.	5,600	33 60	8,000	48 00
10	Parker Matthew S.	6,400	38 40	1,000	6 00
10	Parker Moses	7,500	45 30	200	1 20
11	Parker Isaac	19,000	114 00	16,000	96 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
11	Parker Abigail	8,600	51 60		
11	Parker Richard D.	3,200	19 20	1,000	6 00
12	Parker Eliza, heirs	9,400	56 40		
7	Parkhurst & Townsend	4,000	24 00	1,000	6 00
3	Parkman John, heirs	60,400	362 40		
3	Parkman Francis	51,800	310 80	100,000	600 00
4	Parkman George	146,600	879 60	120,000	720 00
4	Parkman Susan			15,000	90 00
7	Parkman Mary B.	36,600	219 60	19,000	114 00
8	Parkman Edward B.	8,600	51 60		
11	Parmlee Asaph	10,000	60 00	1,500	9 60
11	Parmlee Gilbert	3,600	21 60	2,000	12 00
1	Parmenter William	8,000	48 00		
11	Parmenter William B.			10,000	60 00
5	Parris Alexander	9,000	54 00		
4	Parsons Samuel	11,000	66 00		
6	Parsons William	27,000	162 00		
7	Parsons Thos. W. jr.	8,000	48 00	800	4 80
8	Parsons, Dennison & Co.			25,000	150 00
9	Parsons Charles C.	9,000	54 00	30,000	180 00
9	Parsons Thomas	1,500	9 00	36,000	216 00
9	Parsons John	5,000	30 00		
9	Parsons Thos. heirs	10,000	60 00		
10	Parsons Nehemiah			9,000	54 00
11	Partridge Adin	9,200	55 20	1,200	7 20
3	Patten Thomas	12,800	76 80	1,000	6 00
4	Patten James	9,000	54 00	5,000	30 00
11	Patten David	6,800	40 80	400	2 40
4	Patterson Enoch			60,000	360 00
3	Paul James	5,000	30 00		
4	Paul James	30,000	180 00		
4	Paul James & Co.			5,000	30 00
10	Paul Nathaniel	10,800	64 80	600	3 60
10	Paull Rufus	4,200	25 20		
3	Payne Samuel	26,600	159 60		
2	Payson John F.	4,400	26 40	2,000	12 00
6	Payson Ruth	10,000	60 00		
8	Payson John L.	25,000	150 00		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
10	Payson Samuel	11,400	68 40	800	4 80
4	Peabody Louisa	24,000	144 00	20,000	120 00
5	Peabody Catherine	8,700	52 20		
4	Peirce Samuel S.	7,000	42 00	7,000	42 00
4	Peirce Silas & Co.			55,000	330 00
4	Peirce & Lincoln			15,000	90 00
7	Peirce Silas	9,000	54 00		
4	Pearson John H.	35,200	211 20		
8	Pearson John H. & Co.			30,000	180 00
4	Peck Thomas R. & Co.			7,000	42 00
7	Peck Abel G.	22,000	132 00		
7	Peck Abel G. & Co.			60,000	360 00
3	Pelby William	26,800	160 80	1,000	6 00
3	Pendleton William S.	16,000	96 00		
7	Penniman Elisha, h'rs	36,000	216 00		
8	Penniman James	5,600	33 60		
3	Perkins Richard	6,200	37 20	2,000	12 00
3	Perkins Alfred	7,100	42 60	3,000	18 00
4	Perkins John S., heirs	6,000	36 00		
6	Perkins Anna D.	128,400	770 40		
6	Perkins William P.			7,000	42 00
6	Perkins Eliza H.			18,000	108 00
6	Perkins Thomas H. jr.	59,000	354 00	50,000	300 00
7	Perkins Thomas H.	83,400	500 40		
7	Perkins Thomas H., S. G. Perkins and Wm. H. Gardiner, trustees of will of James Perkins			164,000	984 00
8	Perkins Sarah, heirs	18,000	108 00		
8	Perkins Edward	4,000	24 00	600	3 60
8	Perkins Mary, heirs	8,000	48 00		
8	Perkins James, heirs	7,000	42 00		
9	Perkins Horatio N.			20,000	120 00
9	Perkins Edward L.			5,000	30 00
9	Perkins William	13,000	78 00	30,000	180 00
11	Perkins Hannah			10,000	60 00
12	Perkins Samuel S.	25,800	154 80	400	2 40

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
10	Perrin Payson	4,400	26 40	75,000	450 00
4	Perry Lyman	7,600	45 60		
7	Perry Nathaniel	32,200	193 20		
8	Perry Worster			6,000	36 00
10	Perry Marshall S.			5,000	30 00
11	Perry William S.			9,000	54 00
8	Peters Edward D. & Co.			60,000	360 00
7	Pettes Henry & Co.			30,000	180 00
10	Pfaff Charles	5,000	30 00	1,600	6 60
4	Phelps Abel	37,400	224 40	8,000	48 00
4	Phelps Abel & Co.			15,000	90 00
8	Phelps & Kimball			10,000	60 00
8	Phelps Abner	10,600	63 60	1,500	9 00
4	Phillips Edwin	7,200	43 20	1,000	6 00
6	Phillips Jonathan	205,600	1,233 60	275,000	1,650 00
6	Phillips Thomas W.	7,000	42 00	2,000	12 00
7	Phillips William, heirs	102,000	612 00		
7	Phillips Sally	75,000	450 00		
7	Phillips Edward B.	106,000	636 00		
7	Phillips Wendell	6,600	39 60	3,000	18 00
7	Phillips Willard	14,000	84 00	2,500	15 00
8	Phillips & Moseley			20,000	120 00
10	Phillips Samuel, heirs	6,000	36 00		
10	Phillips James	5,400	32 40	400	2 40
5	Phipps George			25,000	150 00
8	Phillips W. & S. & Co.			50,000	300 00
4	Pickens James, heirs	10,000	60 00	24,000	144 00
4	Pickering Edward			5,000	30 00
9	Pickering John			6,000	30 00
11	Pickering Loring	14,000	84 00	400	2 40
4	Pickett & Morton	6,200	37 20	600	3 60
4	Pierce & Peck			8,000	48 00
4	Pierce John	10,000	60 00	1,000	6 00
6	Pierce Thomas J.	4,000	24 00	400	2 40
8	Pierce Samuel B. & Co.	5,600	33 60	25,000	150 00
8	Pierce Samuel B.	14,000	84 00		
9	Pierce John	35,600	213 60		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
11	Pierce Nelson	4,200	25 20	200	1 20
7	Pierpont John	8,600	51 60		
5	Pike Jonathan	4,000	24 00	400	2 40
6	Pike William	10,000	60 00	1,000	6 00
9	Piper Solomon	62,400	374 40	7,000	42 00
9	Piper Solomon & Co.			12,000	72 00
1	Pitman John H.	3,400	20 40	1,000	6 00
8	Pitman Daniel	5,000	30 00		
4	Pitts Lendall, heirs	26,000	156 00		
8	Plimpton Joseph W. & Co.			5,000	30 00
9	Ploembeck John G. heirs	21,800	130 80		
2	Plummer & Barnard			5,000	30 00
3	Plummer Enoch	18,200	115 20	1,000	6 00
4	Plummer & Co.			10,000	60 00
7	Plummer Edwin			4,500	27 00
5	Plympton Henry	9,000	54 00	10,000	60 00
5	Poland William C.	4,560	27 00	500	3 00
5	Pollard Thomas	37,000	222 00	30,000	180 00
11	Pollard Luther	4,800	28 80	600	3 60
11	Pomeroy William	6,600	39 60		
1	Pond Moses	4,800	28 80		
4	Pond Moses & Co.			10,000	60 00
8	Pond & Sabine	5,600	33 60		
5	Pook Sarah A.	6,000	36 00		
4	Pool Lott	9,000	54 00	800	4 80
5	Poor Benjamin	8,000	48 00	5,000	30 00
8	Poor Henry L. & Co.			20,000	120 00
4	Pope Lemuel	9,000	54 00	30,000	180 00
6	Pope Paschal P.	2,000	12 00	60,000	360 00
8	Pope Elizabeth, heirs	7,000	42 00		
11	Pope William	4,800	28 80		
11	Pope William & Sons	10,000	60 00	10,000	60 00
1	Porter Lemuel, heirs	8,600	51 60		
6	Porter Edward P.	3,600	21 60	2,000	12 00
8	Porter Charles			5,000	30 00
10	Porter William F.	6,000	36 00		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
11	Porter Mary, heirs	53,900	323 40		
12	Porter Edward P.	7,200	43 20		
4	Potter & Leland			10,000	60 00
5	Potter Andrew B.	4,000	24 00	500	3 00
5	Powars Daniel E.	38,300	229 80	1,000	6 00
9	Powars Mary, heirs	17,400	104 40		
12	Powell Michael	5,000	30 00		
1	Pratt John	2,800	16 80	1,500	9 00
1	Pratt Eleazer	11,000	66 00	25,000	150 00
3	Pratt Paul	5,000	30 00		
3	Pratt Daniel E.			5,000	30 00
4	Pratt Eleazer F.	16,000	96 00		
5	Pratt William	4,000	24 00	2,000	12 00
5	Pratt Isaac, jr.	6,000	30 00	5,000	30 00
6	Pratt George W.	12,100	72 60	16,000	96 02
6	Pratt George W. and others, trustees			17,000	102 00
7	Pratt George	31,000	186 00	50,000	300 00
8	Pratt Sarah T.	11,400	68 40		
8	Pratt & Rogers			25,000	150 00
9	Pratt William	90,000	540 00	600,000	3,600 00
9	Pratt Calab J.	13,000	78 00	1,000	6 00
10	Pratt Mary	12,000	72 00	20,000	120 00
10	Pratt Caleb	6,200	37 20	400	2 40
11	Pratt & McKenney	6,200	37 20	1,600	9 60
5	Pray Lewis G.	9,900	59 40	20,000	122 00
5	Pray John F.	3,300	19 80	2,000	12 00
6	Pray John H.			6,000	36 00
9	Pray Isaac C.	14,000	84 00		
5	Preble Nathaniel C. A.	4,000	24 00	300	1 80
9	Prentice William H.	12,400	74 00		
9	Prentice William H. & Sons	30,000	180 00	25,000	150 00
4	Prentiss Henry			8,000	48 00
6	Prentiss Charles G.	6,000	36 00		
10	Prentiss Margaret	10,200	61 20		
4	Prescott Benjamin T.	9,800	58 80	1,600	9 60
7	Prescott William	31,000	186 00	120,000	720 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
7	Prescott William H.	25,600	153 60	15,000	90 00
8	Prescotts & Chapin	30,000	180 00	15,000	90 00
10	Prescott Jonathan	5,200	31 20		
10	Prescott Daniel	6,200	37 20		
10	Prescott Edward	15,200	91 20		
4	Preston E. & Co.			6,000	36 00
7	Preston & Champney			5,000	30 00
7	Preston Joshua P.			5,000	30 00
2	Preston Jonathan	20,200	121 20	800	4 80
10	Preston Jonathan & J. Wheeler	12,000	72 00		
11	Price Mary	10,600	63 60		
7	Priest John F.	18,000	108 00	15,000	90 00
1	Prince Samuel	4,600	27 60		
4	Prince John T.	6,000	36 00		
5	Prince Agnes	27,000	162 00		
10	Prince Nathan	3,400	20 40	1,000	6 00
5	Pritchard Asa	4,500	27 00		
4	Proctor John C.	13,000	78 00		
8	Proctor & Butler			20,000	120 00
3	Proprietors 1st Baptist Church	12,600	75 60		
3	Proprietors Green Dragon Tavern	10,000	60 00		
4	Proprietors Long Wharf	320,000	1,920 00		
5	Proprietors Christ Church	5,000	30 00		
5	Proprietors West Church	8,000	48 00		
6	Proprietors Botanic Garden	5,000	30 00		
7	Proprietors Tremont House	220,000	1,320 00		
7	Proprietors Brattle Square Church	18,000	108 00		
7	Proprietors Boston Museum			15,000	90 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount
7	Proprietors Central Congregational Church	6,000	36 00		
7	Proprietors First Church	36,000	216 00		
7	Proprietors Boston Theatre	41,200	247 20		
7	Proprietors Old South Church	93,000	558 00		
7	Proprietors Boston Courier			8,000	48 00
8	Proprietors Boston Daily Advertiser			15,000	90 00
8	Proprietors Federal Street Church	7,000	42 00		
8	Proprietors India Wharf	204,400	1,226 40		
8	Proprietors Foster's Wharf	112,000	672 00		
8	Proprietors Rowe's Wharf	96,000	576 00		
8	Proprietors Central Wharf	363,000	2,178 00		
9	Proprietors United States Hotel	150,000	900 00		
9	Proprietors Roman Catholic Church	18,000	108 00		
10	Proprietors Boylston Market	79,000	474 00		
11	Proprietors Lying-in Hospital	7,000	42 00		
2	Prouty Daniel & Co.	5,000	30 00	10,000	60 00
10	Prouty Joel, heirs	8,400	50 40		
7	Provident Institution for Savings	27,000	162 00		
1	Pulsifer David	4,800	28 80		
4	Pulsifer David & Co.			6,000	36 00
9	Purkitt Henry	9,800	58 80		
4	Putnam Samuel R.	26,100	156 60		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
4	Putnam John P.	13,000	78 00	5,000	30 00
5	Putnam David, heirs	4,400	26 40		
7	Putnam Catherine	11,000	66 00	40,000	240 00
10	Putnam John	4,000	24 00	2,000	12 00
2	Quincy Thomas D.			5,000	30 00
7	Quincy Josiah, jr.	141,600	849 60	50,000	300 00
7	Quincy Josiah, jr., trustee of Russell			40,000	240 00
7	Quincy Josiah, jr., guardian M. A. P. and A. D. Thorndike			80,000	480 00
7	Quincy Josiah, jr., trustee M. A. E. Green	22,000	132 00	28,000	168 00
7	Quincy Josiah, jr., trustee Mrs. Babcock	47,000	282 00		
7	Quincy Josiah, jr., trustee Mrs. Brooks	84,400	506 40		
8	Quincy Josiah, jr., trustee Mrs. Davis	21,700	130 20		
8	Quincy Samuel			30,000	180 00
8	Quincy Josiah	50,300	318 00		
9	Quincy Abigail A.	6,000	36 00		
9	Raddin Thomas, jr.	7,000	42 00	7,000	42 00
4	Ramsdell Reuben	14,900	89 40		
4	Rand J. & L.			4,500	27 00
6	Rand Edward S.	8,000	48 00	6,000	36 00
6	Rand Edward S. and others	23,000	138 00	8,000	48 00
6	Rand Benjamin			5,000	30 00
7	Randall Elizabeth	20,000	120 00		
7	Randall Moses F., heirs	4,600	27 60		
10	Randall Elizabeth	12,200	73 20		
11	Randall William, heirs	6,000	36 00		
8	Ranney David S.	4,400	26 40		
1	Raymond Zebina L.	11,400	68 40		
2	Raymond Thatcher B.	19,400	116 40		
2	Raymond Freeborn F.	10,000	60 00	2,000	12 00
4	Raymond E. & Co.			7,000	42 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
5	Raymond Edward A.	75,600	453 60	3,000	18 00
5	Raymond Emmons	11,700	70 20		
8	Raymond Samuel			7,000	42 00
4	Rayner John	39,900	239 40	3,000	18 00
9	Rayner Thomas L.	41,200	247 20		
7	Rea William A.	24,000	144 00	35,000	210 00
3	Read Joseph S.			8,000	48 00
9	Read & Chadwick			40,000	240 00
4	Redding George	11,600	69 60		
4	Redding & Co.			5,000	30 00
10	Redding George W.	6,000	36 00		
6	Redfern William, heirs	5,800	34 80		
10	Redman John	252,400	1,514 40	400	2 40
2	Reed & Wade			10,000	60 00
2	Reed, Hurd & Co.			10,000	60 00
4	Reed Reuben	10,000	60 00	5,000	30 00
4	Reed, Wing & Cutler			35,000	210 00
4	Reed Elihu H.			5,000	30 00
4	Reed & Kenney			6,000	36 00
5	Reed Charles T.	5,000	30 00		
6	Reed Charles T. & Co.	5,500	33 00	3,000	18 00
6	Reed Sampson	11,000	66 00	15,000	90 00
7	Reed Benjamin T.	15,000	90 00	30,000	180 00
9	Reed David	12,000	72 00	400	2 40
10	Reed William	7,600	45 60	2,000	12 00
10	Reed Clarissa	7,000	42 00		
10	Reed Henry M.	7,000	42 00		
8	Reggio N. & Peloso			5,000	30 00
4	Rehbinda O. M.			5,000	30 00
5	Remick Samuel H.	11,500	69 00	1,000	6 00
6	Remick Benjamin	10,800	64 80	400	2 40
7	Renouf Edward	7,400	44 40	25,000	150 00
7	Revere Joseph W.	82,000	492 00	40,000	240 00
8	Revere Copper Co.			26,000	156 00
11	Revere George	12,000	72 00		
4	Reynolds William B. & Co.			20,000	120 00
7	Reynolds Edward, jr.	14,000	84 00	7,000	42 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
8	Reynolds Edward	9,200	55 20	5,000	30 00
8	Reynolds William	9,000	54 00	20,000	120 00
8	Reynolds Grindall	6,000	36 00	1,000	6 00
11	Reynolds William B. and others	28,000	168 00		
1	Rhoades Stephen	5,500	33 00		
2	Rhoades Samuel H.	6,000	36 00	600	3 60
2	Rhoades Isaac	9,800	58 80		
4	Rhoades Stephen & Asa H.			6,000	36 00
3	Rice & Jenkins	6,200	37 20	800	4 80
3	Rice Reuben	12,000	72 00		
4	Rice David, heirs	42,000	252 00		
4	Rice J. C. & W. & Co.			15,000	90 00
4	Rice & Thaxter			25,000	150 00
5	Rice & Crosby			5,000	30 00
6	Rice Henry G.	19,000	114 00	16,000	96 00
7	Rice John P.	16,000	96 00	5,000	30 00
8	Rice Henry	58,600	351 60	10,000	60 00
8	Rice & Wason			5,000	30 00
9	Rice Hosea B.	4,000	24 00	400	2 40
12	Rice David, heirs	20,200	121 20		
1	Rich Isaac	8,800	52 80		
2	Rich Benjamin & Son			60,000	360 00
7	Rich Abraham			10,000	60 00
8	Rich T. P. & O.	11,000	66 00	20,000	120 00
9	Rich Benjamin	15,000	90 00		
2	Richards E. & H. Ayling	5,000	30 00		
6	Richards Wyatt	3,600	21 60	600	3 60
7	Richards & Noyes	6,600	39 60	600	3 60
7	Richards Samuel	18,000	108 00		
7	Richards Nath'l, heirs	10,000	60 00		
8	Richards Marks, heirs	6,000	36 00		
9	Richards Reuben	125,200	751 20	40,000	240 00
10	Richards Joseph, heirs	5,000	30 00		
10	Richards Eliakim	24,900	149 40		
10	Richards Isaiah D.			5,000	30 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
10	Richards Thomas B.	13,000	78 00		
10	Richards, Munn & Co.			5,000	30 00
11	Richards Benjamin	8,000	48 00	200	1 20
2	Richardson John, heirs	11,000	66 00		
2	Richardson Adeline	12,200	73 20		
4	Richardson Jacob	8,600	51 60	600	3 60
4	Richardson George B. & Co.			5,000	30 00
5	Richardson Jesse P., heirs	6,400	38 40		
6	Richardson John D.	5,000	30 00	400	2 40
7	Richardson Asa, heirs	14,400	86 40		
7	Richardson William	11,000	66 00		
7	Richardson Fanny	6,000	36 00		
7	Richardson, Burrage & Co.			15,000	90 00
8	Richardson Winthrop	6,000	36 00	8,000	48 00
8	Richardson Benjamin P.	6,000	36 00	10,000	60 00
8	Richardson Benjamin, administrator John Burroughs	11,000	66 00	15,000	90 00
8	Richardson Jeffrey	29,000	174 00	50,000	300 00
8	Richardson Jeffrey & Brothers			45,000	270 00
9	Richardson Thomas	34,950	209 70	3,000	18 00
9	Richardson James B.	26,400	158 40	10,000	60 00
9	Richardson Peter	800	4 80	5,000	30 00
9	Richardson Thomas and others	21,000	126 00		
10	Richardson, trustee Mrs. Whipple	5,600	33 60		
11	Richardson William	9,200	55 20	200	1 20
5	Ridgway James	10,600	63 00	10,000	60 00
11	Ridgway Ann	31,300	187 80		
3	Ridlon Richard	8,000	48 00	400	2 40
1	Ringot Joseph, heirs	4,200	25 20		
1	Ripley Robert	11,800	70 80	1,000	6 00
9	Rich Otis	5,200	31 60		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
1	Ritchie Uriah	71,900	431 40	400	2 40
1	Ritchie John	16,800	100 80	400	2 40
3	Ritchie James	47,200	283 20	400	2 40
7	Ritchie John, heirs	13,000	78 00		
4	Robbins Eunice D.	8,000	48 00		
9	Robbins Edward H.	228,800	1,372 80	5,000	30 00
9	Robbins Shepard			5,000	30 00
9	Robbins Robert	23,200	139 20	2,000	12 00
10	Robbins John M.	25,600	153 60	1,000	6 00
10	Robbins E. H. & E. G. Loring	9,800	58 80		
12	Robbins Charles	4,200	25 20	1,600	9 60
12	Robbins Nathan, jr.	14,200	85 20		
3	Roberts Richard S.	7,800	46 80	400	2 40
4	Roberts George			5,000	30 00
5	Roberts Joseph D.	85,200	511 20	600	3 60
5	Roberts Amos	4,500	27 00		
5	Roberts John, heirs	7,000	42 00		
6	Roberts Richard S., heirs	40,200	241 20		
9	Roberts Rebecca	5,400	32 40	5,000	30 00
11	Roberts John G.	6,200	37 20		
11	Roberts John L.	5,200	31 20	600	3 60
6	Robins Henry	10,000	60 00		
6	Robins Jonathan D.			6,000	36 00
7	Robins Richard	8,000	48 00	5,000	30 00
8	Robins Henry & Co.			8,000	48 00
1	Robinson G. W. & E.	5,000	30 00		
1	Robinson Thos., heirs	102,600	615 60		
1	Robinson Simon W.	4,500	27 00	5,000	30 00
2	Robinson George W.	10,800	64 80		
2	Robinson George W. & Co.			7,000	42 00
2	Robinson William & William Gould	6,800	40 80		
3	Robinson Henry	6,000	36 00		
5	Robinson Shadrach	8,000	48 00		
6	Robinson George W.	6,000	36 00	7,000	42 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
8	Robinson George W. & Co.			10,000	60 00
10	Robinson Luther			5,000	30 00
3	Roby Dexter & Co.			8,000	48 00
5	Roby Dexter	5,500	33 00		
8	Roby Henry	5,200	31 20	5,000	30 00
5	Rogers John	4,600	27 60	1,000	6 00
6	Rogers Benjamin	11,400	68 40	7,000	42 00
6	Rogers Henry B.	53,800	322 80	20,000	120 00
6	Rogers Sarah P.	13,000	78 00	32,000	192 00
8	Rogers George	18,600	111 60	1,000	6 00
8	Rogers William M.	13,600	81 60		
9	Rogers John H.	4,600	27 60	12,000	72 00
10	Rogers William S.			30,000	180 00
10	Rogers John	9,800	58 80		
10	Rogers Alvan	4,800	28 80	8,000	48 00
10	Rogers J. & G. M.	8,800	52 80		
10	Rohan Edward	4,400	26 40		
4	Rollins Theodore F.	3,800	22 80	400	2 46
7	Rollins Frances H.	34,000	204 00	11,000	66 00
10	Rollins & Demeritt	16,800	100 80	600	3 60
11	Rollins John W.	24,200	145 20	200	1 20
4	Ropes William & Co.			5,000	30 00
3	Ross Jeremiah	4,000	24 00	4,000	24 00
4	Rotch William, jr.	25,000	150 00		
5	Rotch William	3,200	19 20	2,000	12 00
5	Roulstone Michael	18,400	110 40	1,000	6 00
7	Roulstone John, heirs	9,000	54 00		
1	Rowe Isaac F.	10,000	60 00	600	3 60
2	Rowe John, heirs	77,600	465 60		
7	Rowland David S.			8,000	48 00
12	Roxbury Savings Bank	8,400	50 40		
2	Ruggles George H.	3,200	19 20	1,000	6 00
4	Ruggles, Nourse & Mason			5,000	30 00
6	Ruggles Levi	7,800	46 80		
8	Rundlet, De Wolf & Co.			7,000	42 00
7	Rupp John			5,000	30 00
1	Russell James D.	18,200	109 20		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
2	Russell J. Duton & F. Standish	92,800	556 80		
4	Russell Charles T.	7,000	42 00	1,500	9 00
4	Russell Joseph G.	29,900	179 40	10,000	60 00
4	Russell N. P. and others, trustees	181,500	1,089 00	13,000	78 00
4	Russell Nathaniel & Co.	55,000	330 00		
5	Russell John	4,500	27 00	400	2 40
7	Russell Nathaniel P.	30,000	180 00	60,000	180 00
6	Russell Benjamin	11,000	66 00		
9	Russell Nathaniel	11,000	66 00		
1	Rust William P. A.	7,200	43 20	400	2 40
1	Rust Thomas A.	14,000	84 00		
1	Ruthven Robert E.	10,500	63 00		
4	Safford Daniel	15,600	93 60	5,000	30 00
7	Safford Daniel & Co.	10,000	60 00	10,000	60 00
4	Salisbury Elizabeth	10,000	90 00		
7	Salisbury Samuel	51,300	307 80	38,000	228 00
7	Salisbury Abigail	25,000	150 00		
10	Salmon John M.	3,200	19 20	1,000	6 00
1	Salter James	13,600	81 60		
4	Salter Richard H.	8,000	48 00	1,000	6 00
8	Saltonstall Nathaniel, heirs	51,000	306 00		
2	Sampson & Tappan			40,000	240 00
5	Sampson George R.	6,600	39 60		
11	Samuels Isaac	10,800	64 80	27,000	162 00
3	Sanborn Christopher P.	13,000	78 00	400	2 40
4	Sanborn G. C. & T. C. Waitt	29,500	177 00		
11	Sanborn Alfred S.	4,000	24 00	400	4 80
11	Sanborn Silas	8,100	48 60	1,000	6 00
11	Sanborn Greenleaf C.	43,000	258 00	1,000	6 00
3	Sanderson Albert	4,000	24 00	400	2 40
4	Sanderson Jacob	6,000	36 00		
11	Sanderson Luther	7,000	42 00	1,600	9 60
9	Sanford Samuel	244,200	1,465 20	15,000	90 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
7	Sanger Calvin P.	6,600	39 60		
9	Sanger Samuel	6,000	36 00		
10	Sargeant Stephen	800	4 80	10,000	60 00
1	Sargent Edward	5,800	34 80		
2	Sargent Wharf Corp.	68,000	408 00		
4	Sargent & Bodwell	13,000	78 00	5,000	30 00
4	Sargent Lucius M.	78,100	468 60		
4	Sargent Catherine & Henrietta			10,000	60 00
6	Sargent Henry J.	5,000	30 00	6,000	36 00
6	Sargent Christianna R.	68,900	413 40		
6	Sargent Mary, ex'r.	39,000	234 00		
6	Sargent Daniel, heirs	10,600	63 60		
6	Sargent Ignatius	59,000	354 00	58,000	348 00
6	Sargent Ignatius, trustee			5,000	30 00
8	Sargent Epes	6,600	39 60	25,000	150 00
9	Sargent Henry	100,200	601 20	2,000	12 00
9	Sargent Henry and others, trustees			7,000	42 00
4	Savage James S.	26,400	158 40	1,000	6 00
7	Savage James	17,000	102 00	80,000	480 00
7	Savage William	23,600	141 60	10,000	60 00
10	Savage George and others	31,600	189 60		
11	Savage George	12,700	76 20	1,000	6 00
10	Saville John	5,400	32 40		
6	Sawtell Amos	4,000	24 00	1,200	7 20
3	Sawyer Thomas			15,000	90 00
4	Sawyer Amos	14,000	84 00		
6	Sawyer William	58,000	348 00	25,000	150 00
7	Sawyer Matthias P.	25,000	150 00	50,000	300 00
7	Sawyer & Allen	5,300	31 80	3,000	18 00
9	Sawyer Mary C.	4,200	25 20		
10	Sawyer Francis A.	22,600	135 60	200	1 20
7	Sayles Willard	17,000	102 00	100,000	600 00
7	Sayles, Meriam & Co.			55,000	330 00
3	Schaeffer Alphonso	8,800	52 80	600	3 60
6	Scholfield Isaac	5,600	33 60	20,000	120 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
6	Scholfield Isaac, jr.			5,000	30 00
6	Scholfield Arthur			10,000	60 00
4	Scollay Catharine	37,000	222 00	5,000	30 00
6	Scudder Marshal S.	6,000	36 00		
8	Scudder Charles & Co.			30,000	180 00
9	Scudder Charles	10,000	60 00		
8	Searle & Co.			5,000	30 00
4	Sears Joshua	10,000	60 00	29,000	174 00
6	Sears David and others	9,000	54 00		
6	Sears David	263,300	1,579 80	160,000	960 00
9	Sears Willard	41,500	249 00		
9	Sears Eben	16,600	99 60	600	3 60
9	Sears George	4,600	27 60	8,000	48 00
10	Sears Charles, trustee	5,800	34 80		
12	Sears Ebenezer			5,000	30 00
5	Seaver Benjamin	10,000	60 00		
2	Seccomb, Bartlett & Co.			10,000	60 00
9	Sever James W.			6,000	36 00
9	Sewall Joseph	10,300	61 80	1,000	6 00
10	Sewall Benjamin	4,800	28 80	5,000	30 00
10	Sewall Benjamin & J. C. Dunn, ex'rs			5,000	30 00
11	Sexton John M.	5,200	31 20	1,000	6 00
11	Shales Edward	17,800	106 80	5,000	30 00
8	Shapleigh, Kelsey & Co.			45,000	270 00
5	Shattuck George C.	147,500	885 00	125,000	750 00
5	Shattuck George C.	44,000	264 00	10,000	60 00
2	Shaw Robert G. & Co.			75,000	450 00
4	Shaw Southworth, jr.	18,600	111 60	20,000	120 00
4	Shaw Charles B.	16,000	96 00		
4	Shaw Thomas			5,000	30 00
6	Shaw Lemuel	37,800	226 80	40,000	240 00
6	Shaw Jesse	27,200	163 20	600	3 60
6	Shaw Robert G.	489,100	2,934 60	50,000	300 00
6	Shaw Lemuel, trustee			5,000	30 00
8	Shaw, Blake & Co.			80,000	480 00
9	Shaw Joel	4,200	25 20	400	2 40
4	Shawmut Bank			8,000	48 00
6	Sheafe Henry	7,000	42 00		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
7	Sheafe Samuel and others	45,000	270 00		
4	Shedd John H.			5,000	30 00
4	Shelton Philo S.			10,000	60 00
4	Shelton Philo S., ex'r estate B. P. Homer			30,000	180 00
10	Shelton Stephen	5,800	34 80	2,000	12 00
8	Shepard Preston			7,000	42 00
10	Sherburne Joseph M.	3,400	20 40	3,000	18 00
3	Shillaber Daniel	31,200	187 20		
5	Shimmin William	21,400	128 40	15,000	90 00
3	Shipley Simon G.	19,200	115 20	800	4 80
6	Shipley Joel	6,000	36 00	400	2 40
7	Shipley Simon G., Thos. Gould and others, trustees	55,000	330 00		
7	Shorey & Co.			12,000	72 00
11	Shumway Nelson	9,400	56 40	3,400	20 40
4	Shurtleff Samuel A.	48,000	288 00		
4	Shurtleff Nathaniel B.	13,000	78 00	2,000	12 00
7	Shurtleff Benjamin	16,000	96 00	55,000	330 00
5	Shute Ebenezer	15,000	90 00	1,000	6 00
4	Sigourney Henry	28,800	172 80	160,000	960 00
4	Sigourney Henry, trustee			6,000	36 00
5	Sigourney Elizabeth, heirs	10,000	60 00		
7	Sigourney Mary, heirs	7,400	44 40		
3	Sikes John	7,400	44 40	400	2 40
5	Silsby Enoch	26,000	156 00		
2	Simmons Valentine	18,400	110 40		
4	Simmons George A.	11,600	69 60	10,000	60 00
4	Simmons John & Co.			20,000	120 00
7	Simmons George W.			10,000	60 00
7	Simmons John	71,000	426 00		
11	Simmons David A.	2,000	54 00		
5	Simmons Shepherd	3,300	19 80	20,000	120 00
5	Simmons William, heirs	5,500	33 00		
7	Simmons Franklin and others, trustees	9,000	54 00		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
10	Simmons Artemas	4,800	28 80	400	2 40
12	Simmons Alvan	2,200	13 20	3,500	21 00
4	Simpkins Samuel G.			5,000	30 00
4	Simpkins John, heirs	18,000	108 00		
5	Simpkins John			8,000	48 00
2	Simpson Daniel P.	4,400	26 40	10,000	60 00
4	Simpson John K., heirs	10,000	60 00		
5	Simpson John K.			10,000	60 00
7	Simpson Paul, jr.			5,000	30 00
8	Simpson Michael H.			35,000	210 00
10	Simpson Maria M. and Sisters	6,000	36 00		
10	Simpson Daniel	7,600	45 60	1,000	6 00
10	Simpson Thomas	4,600	27 60	600	3 60
10	Simpson Ferdinand G.	31,600	189 60	400	2 40
8	Sinclair William	6,000	36 00		
1	Skinner Alvah	3,200	19 20	1,000	6 00
3	Skinner Noah K.	3,400	20 40	2,000	12 00
6	Skinner Francis	61,800	370 80	7,000	42 00
7	Skinner John, heirs	13,000	78 00		
8	Skinner Francis & Co.			100,000	600 00
8	Skinner William S.			25,000	150 00
11	Skinner Elias jr.	8,500	51 00	15,000	90 00
8	Skolfield Thomas			5,000	30 00
8	Slade Calvin & Co.			5,000	30 00
7	Sleeper Jacob	8,000	48 00		
7	Sleeper & Rogers			5,000	30 00
1	Smith John	4,000	24 00	5,000	30 00
1	Smith Lewis	6,000	36 00		
2	Smith & Lougee			5,000	30 00
2	Smith Edmund	8,500	51 00		
2	Smith Benjamin	21,800	130 80	6,000	36 00
3	Smith Nathaniel	11,000	66 00		
3	Smith Edmund	5,700	34 20		
3	Smith Joseph	15,600	93 60	1,600	9 60
3	Smith Hiram	4,000	24 00	20,000	120 00
4	Smith Thomas C.	26,200	157 20	10,000	60 00
4	Smith Perez	25,000	150 00	3,000	18 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
4	Smith Frederick	10,000	60 00		
4	Smith Jerome V. C.	9,600	57 60	2,000	12 00
4	Smith Ebenezer	135,200	811 20	3,000	18 00
4	Smith Green	18,400	110 40	8,000	48 00
4	Smith Benjamin G.			7,000	42 00
4	Smith Abner, jr.	6,500	39 00	800	4 80
5	Smith Elias	6,000	36 00		
5	Smith Charles	5,000	30 00	1,000	6 00
5	Smith Martin	6,000	36 00	400	2 40
6	Smith Jeremiah	6,000	36 00		
6	Smith Joseph L., heirs	15,000	90 00		
7	Smith James W.	14,000	84 00	15,000	90 00
7	Smith Ebenezer, jr.	4,700	28 20	1,000	6 00
7	Smith & Proctor			5,000	30 00
7	Smith & Sumner			15,000	90 00
7	Smith Albert W. & Co.	6,000	36 00		
7	Smith Henry & Son			20,000	120 00
7	Smith Henry	22,500	135 00		
7	Smith Abiel, heirs	75,000	450 00		
7	Smith Ann, heirs	23,000	138 00		
8	Smith Joseph M.	8,000	48 00		
8	Smith George G.	6,600	39 60	1,000	6 00
8	Smith George W.	2,600	15 60	5,000	30 00
9	Smith Charles A.	4,800	28 80	600	3 60
9	Smith Elizabeth	6,000	36 00	5,000	30 00
9	Smith Henry B.	52,000	312 00	6,000	36 00
9	Smith Catherine S.	4,600	27 60		
9	Smith Nathaniel P.	7,000	42 00		
9	Smith Nancy			5,000	30 00
10	Smith Charles, trustee	5,600	33 60		
11	Smith Melancthon	9,800	58 80		
11	Smith Joseph E., heirs	10,200	61 20		
11	Smith Hyman J.	4,800	28 80	400	2 00
11	Smith John T.	4,000	24 00	200	1 20
12	Smith James	4,300	25 80		
12	Smith William	8,000	48 00		
1	Snelling Enoch H.	13,600	81 60	600	3 60
1	Snelling Nathaniel G.	5,000	30 00	9,000	54 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount
3	Snelling John	16,000	96 00		
6	Snelling Samuel, heirs	15,000	90 00		
1	Snow Ephraim	8,600	51 60	15,000	90 00
3	Snow John M., heirs	10,000	60 00		
4	Snow Thomas	24,200	145 20		
4	Snow Thomas & Co.			8,000	48 00
4	Snow & Rich			25,000	150 00
5	Snow Larkin	5,600	33 60	3,000	18 00
5	Snow Lucy	4,400	26 40		
6	Snow	7,000	42 00		
6	Snow Daniel F.	6,000	36 00		
9	Snow Gideon, trustee	6,600	39 60		
7	Sohier Edward D.	3,800	22 80	30,000	180 00
9	Sohier William D.	16,600	99 60	26,000	156 00
9	Sohier William D., trustee Mrs. Dexter			12,000	72 00
3	Soule Richard	6,700	40 20	1,000	6 00
3	Soule Richard, trustee			23,000	138 00
10	South Wharf Cor.	47,000	282 00		
10	South Cove Cor.	130,000	780 00		
12	South Boston Association	78,900	473 40		
12	South Boston Iron Co.	67,400	404 40	70,000	420 00
6	Southwick Philip R.			10,000	60 00
9	Southwick Joseph	9,000	54 00	1,000	6 00
11	Southworth Constant	8,000	48 00	1,000	6 00
10	Spare Elijah	9,200	55 20		
5	Sparrell William	3,600	21 60	600	3 60
11	Sparhawk George	7,000	42 00	600	3 60
2	Spaulding & Bryant			10,000	60 00
5	Spaulding Leonard	15,000	90 00		
8	Spaulding, Rice & Hastings			20,000	120 00
10	Spaulding Thaddeus, heirs	30,200	181 20		
4	Spear William H.			5,000	30 00
4	Spear William H. & Co.			20,000	120 00
8	Spear Maria	28,000	168 00		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
8	Spear Gershom, heirs	13,600	81 60		
4	Spellman Israel M.			14,000	84 00
1	Spence John	4,200	25 20		
8	Spencer Hobart	5,800	34 80		
2	Spooner & Arnold			25,000	150 00
4	Spooner John P.	12,000	72 00		
5	Spooner William B.	8,500	51 00		
2	Sprague Phineas & Co.	4,000	24 00	75,000	450 00
4	Sprague Charles as Cashier			67,000	402 00
4	Sprague, Soule & Co.			10,000	60 00
6	Sprague Phineas	13,000	78 00		
7	Sprague Peleg	5,000	30 00	20,000	120 00
9	Sprague Joseph	4,000	24 00	1,000	6 00
10	Sprague George J.	7,600	45 60	8,000	48 00
10	Sprague Samuel			8,000	48 00
10	Sprague Charles	17,200	103 20	1,600	9 60
8	Spring Isaac H.			10,000	6 00
4	Stackhouse Isaac N.			6,000	36 00
7	Stackpole Joseph L.	13,000	78 00	10,000	60 00
4	Standish Francis	14,400	86 40	500	3 00
10	Standish Lemuel M.	6,200	37 20	200	1 20
6	Stanford Joanna A.	7,200	43 20		
8	Stanton & Spelman, heirs	9,400	56 40		
9	Stanton Francis, heirs	22,000	132 00		
9	Stanton Mary			30,000	180 00
2	Stanwood & Reed			10,000	60 00
6	Stanwood Lemuel	22,000	132 00	1,000	6 00
4	Staples George	6,000	36 00	12,000	72 00
4	Staples Thomas A.	12,000	72 00	3,000	18 00
7	Staples James N. & Isaac			20,000	120 00
7	Stark Joseph	7,000	42 00	600	3 60
1	Stearns Curtis & Elijah	7,000	42 00		
2	Stearns Charles H.	3,000	18 00	2,000	12 00
3	Stearns James W.	4,800	28 80	400	2 40
3	Stearns Jacob	6,000	36 00		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
4	Stearns William	7,000	42 00		
4	Stearns William & Co.			20,000	120 00
6	Stearns John	59,000	354 00	40,000	240 00
8	Stearns Simon & Son			9,000	54 00
11	Stearns Asa	26,400	158 40	200	1 20
12	Stebbins John B. heirs	11,100	66 60		
12	Stebbins Mary Ann	5,600	33 60		
10	Stedman Josiah	54,400	326 40	35,000	210 00
10	Stedman Josiah, trustee	19,800	118 80	6,000	36 00
4	Steele & Dickinson			10,000	60 00
8	Steele, Dexter & Bush			30,000	180 00
7	Stephenson, Howard & Davis			6,000	36 00
2	Stetson Amasa	38,600	231 60		
2	Stetson Lebbeus	32,000	192 00	2,000	12 00
3	Stetson & Barnes			12,000	72 00
9	Stetson Caleb			30,000	180 00
12	Stetson Alpheus	8,400	50 40	2,000	12 00
1	Stevens Sarah B.	7,600	45 60		
3	Stevens James	6,400	38 40	400	2 40
4	Stevens Amos	4,300	25 80	4,000	24 00
5	Stevens Thomas	7,300	43 80		
7	Stevens Sally			28,000	168 00
7	Stevens Isaac, heirs	26,400	158 40		
7	Stevens Mary H.			10,000	60 00
7	Stevens Wealthy B.			10,000	60 00
7	Stevens Adeline D.			10,000	60 00
7	Stevens Willard W.			10,000	60 00
9	Stevens Zachariah	5,400	32 40		
11	Stevens John	8,800	52 80	1,000	6 00
11	Stevens Polly	11,000	66 00		
11	Stevens Benj. trustee,	8,000	48 00		
12	Stevens Seriah	5,200	31 20	200	1 20
12	Stevens John	6,200	37 20		
9	Stevenson William	11,000	66 00	4,000	24 00
10	Stewart Alexander	8,000	48 00		
5	Stickney Silas	4,600	27 60		
7	Stickney Josiah	45,900	275 40	60,000	360 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
8	Stickney & Joy			12,000	72 00
4	Stimpson William C. & Reed			6,000	36 00
8	Stimpson H. & F.	17,000	102 00	12,000	72 00
8	Stimpson Sally	7,800	46 80		
9	Stimpson Charles	5,000	30 00	5,000	30 00
9	Stimpson Frederick H.	5,300	31 80	8,000	48 00
10	Stimpson Herbert H.	6,000	36 00		
5	Stimson Augustine G.	5,500	33 00		
10	Stimson Caleb, heirs	11,000	66 00		
10	Stimson Samuel	10,000	60 00		
2	Stockwell Joseph	3,200	19 20	1,000	6 00
6	Stoddard Bela	14,800	88 80		
6	Stoddard Betsy	5,600	33 60		
7	Stoddard Charles	10,000	60 00		
2	Stone Joseph, heirs	33,500	201 00		
3	Stone Phineas A.	9,100	54 60	400	2 40
4	Stone William W.	23,000	138 00	35,000	210 00
4	Stone Joseph	6,400	38 40		
4	Stone Henry B.	16,000	96 00	30,000	180 00
4	Stone Ebenezer W.	11,100	66 60		
4	Stone, Crosby & Co.			10,000	60 00
4	Stone & Brother			10,000	60 00
5	Stone & Adams			5,500	33 00
7	Stone Henry Orne			5,000	30 00
8	Stone Robert, jr. & Co.			10,000	60 00
8	Stone Daniel P.	13,000	78 00	10,000	60 00
8	Stone Wm. W., trustee	12,400	74 40		
8	Stone Daniel P. & Co.			40,000	240 00
6	Storer Robert B.			10,000	60 00
7	Storer David H.	8,000	48 00	2,000	12 00
4	Storrow Charles S.			5,000	30 00
1	Storrs Nathaniel			10,000	60 00
4	Story Joseph	8,000	48 00		
6	Story Franklin H.	12,000	72 00	6,000	36 00
7	Story Isaac, heirs	26,000	156 00		
9	Story Joseph	9,000	54 00		
4	Stow Barron	7,000	42 00	1,500	9 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
8	Stowe, Clarke & Emerson			35,000	210 00
6	Stowell Caleb	13,600	81 60	1,800	10 80
5	Strater Herman	4,000	24 00	1,000	6 00
3	Stratton Jonas	5,000	30 00	600	3 60
4	Stratton & Sheriff			5,000	30 00
8	Stratton John	5,600	33 60	5,000	30 00
3	Strong Alexander	5,000	30 00		
4	Strong Woodbridge	11,000	66 00	2,500	15 00
8	Strong Alexander & Co.			10,000	60 00
4	Sturgis Nathaniel R.	49,600	297 60		
6	Sturgis Mary G.	10,500	63 00		
9	Sturgis Elizabeth	11,000	66 00		
9	Sturgis William	47,600	285 60		
10	Sturgis Catherine	7,000	42 00		
8	Sturtevant & Edwards	5,000	30 00	4,000	24 00
3	Suffolk Manufacturing Co.	15,200	91 20		
4	Suffolk Bank	100,000	600 00	42,000	252 00
8	Suffolk Insurance Co.	76,000	456 00		
2	Sullivan John	9,000	54 00		
6	Sullivan William, heirs	40,000	240 00		
7	Sullivan Richard	11,000	66 00	5,000	30 00
4	Sumner Relief	7,600	45 60	23,000	138 0
4	Sumner William H.	19,200	115 20		
5	Sumner Thomas W.	7,000	42 00		
6	Sumner Jesse			6,000	36 00
7	Sumner W. R & A. H.			7,000	42 00
11	Sumner Timothy A.	7,000	42 00		
7	Suter John	7,000	42 00	35,000	210 00
3	Swallow Asa	12,900	77 40	600	3 60
2	Swan Luther	5,600	33 60	800	4 80
6	Swan James	7,200	43 20		
5	Sweet James S.	5,000	30 00	800	4 80
4	Sweetser Henry	5,000	30 00		
4	Swett Samuel	16,000	96 00	40,000	240 00
6	Swett Elizabeth B.	19,000	114 00	50,000	300 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
6	Swett Elizabeth, guardian of J. C. and W. B. Swett			64,000	384 00
6	Swett Elizabeth L.			32,000	192 00
7	Swett Tasker H., heirs	12,000	72 00		
7	Swett Elizabeth	5,000	30 00		
8	Swett William B., heirs	10,000	60 00		
1	Swift John J.	21,200	127 20	40,000	240 00
1	Swift John J. and others, collateral			10,000	60 00
4	Symmes & Eaton			5,000	30 00
8	Symonds & Briggs			8,000	48 00
3	Taber Job	7,800	46 80	2,000	12 00
8	Talbot & Birchard			7,000	42 00
9	Tallman Henry	49,200	295 20		
7	Tappan & Dennett			7,000	42 00
9	Tappan Lewis W.	15,000	90 00		
9	Tappan John	98,000	588 00	40,000	240 00
7	Tarbell Thomas	7,400	44 40		
8	Tarbell Thomas & Co.			20,000	120 00
1	Taylor Joseph W.	9,000	54 00		
2	Taylor Hannah P.	10,400	62 40		
2	Taylor Edward T.	5,000	30 00		
3	Taylor Frederick	4,000	24 00	3,000	18 00
4	Taylor Hannah J.	117,900	707 40		
5	Taylor Horace B.	4,500	27 00		
5	Taylor Arnold W.	14,100	84 60		
5	Taylor William, heirs	11,000	66 00		
6	Taylor Eber	6,400	38 40		
7	Taylor William			12,000	72 00
8	Taylor & Waldron			20,000	120 00
12	Taylor John	4,500	27 00	400	2 40
1	Tebbetts John C.	13,800	82 80		
5	Tebbetts John C., trustee	6,400	38 40		
6	Temple Horace L.	3,800	22 80	400	2 40
4	Templeton John	89,800	538 80	26,000	156 00
4	Templeton John, guardian	14,800	88 80	14,000	84 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
1	Tenney Samuel	11,600	69 60	7,000	42 00
3	Tenney William P.	6,000	36 00	12,000	72 00
8	Tenney & Coules			5,000	30 00
8	Tenney Oliver	10,000	60 00		
8	Tenney & Rice			7,000	42 00
8	Tenney & Balister			5,000	30 00
10	Tenney Amos	6,000	36 00		
10	Tenney Marshall			5,000	30 00
11	Tenney Thomas P.	4,800	28 80	1,000	6 00
11	Tenney John H.	4,800	28 80		
12	Tenney John	4,400	26 40	200	1 20
4	Terry William D.	8,000	48 00		
4	Thacher & Billings	1,400	8 40	20,000	120 00
4	Thacher & Sears			7,000	42 00
4	Thacher George & Co.			20,000	120 00
6	Thacher Peter O., heirs	23,000	138 00		
6	Thacher George M., ex'r			7,000	42 00
6	Thacher George M., trustee			10,000	60 00
6	Thacher Caroline	13,000	78 00	25,000	150 00
6	Thacher Charles, trustee			8,000	48 00
9	Thacher Isaac	13,400	80 40		
2	Thacher Thomas	6,000	36 00		
9	Thacher George C.	42,900	257 40	15,000	90 00
12	Thacher George	4,800	28 80		
6	Thatcher Peter	9,000	54 00		
7	Thatcher & Fearing			20,000	120 00
1	Thaxter Adam W. and others	10,000	60 00		
2	Thaxter Levi	11,000	66 00		
5	Thaxter Jonathan	10,800	64 80		
5	Thaxter Levi	7,000	42 00		
5	Thaxter Adam W.	64,700	388 20	5,000	30 00
5	Thaxter Edward and Henry	5,000	30 00		
6	Thaxter Adam W., jr.	28,000	168 00		
10	Thaxter Seth	9,000	54 00		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
10	Thaxter Jacob	10,000	60 00	400	2 40
1	Thayer John, heirs	9,000	54 00		
2	Thayer & Bates			10,000	60 00
4	Thayer George W.	61,800	130 80	20,000	120 00
4	Thayer John E. & Brother			110,000	660 00
4	Thayer John E.	6,600	39 60		
7	Thayer Hannah	5,000	30 00		
7	Thayer Gideon F.	19,000	114 00	2,000	12 00
7	Thayer Benjamin W. & Co.			5,000	30 00
8	Thayer Joseph H.	9,200	55 20	10,000	60 00
8	Thayer, Hollis & Co.			20,000	120 00
8	Thayer Joel	45,600	273 60	30,000	180 00
8	Thayer S. T. & Co.			10,000	60 00
10	Thayer Benjamin W.	4,800	28 80		
11	Thayer Ephraim, heirs	18,000	108 00		
4	Thomas William	10,000	60 00		
7	Thomas Alexander	2,800	16 80	6,000	36 00
7	Thomas Thomas K.	16,800	100 80		
8	Thomas William & Co.			12,000	72 00
3	Thompson Sam'l, heirs	7,600	45 60		
3	Thompson James	8,600	51 60		
4	Thompson Abigail	9,000	54 00	10,000	60 00
4	Thompson Louisa			13,000	78 00
5	Thompson Benjamin L.	6,100	36 60	13,000	78 00
6	Thompson William	25,800	154 80	400	2 40
7	Thompson Thomas, ex'r			60,000	360 00
7	Thompson Thomas, heirs	169,400	1,016 40		
8	Thompson & Lapham			20,000	120 00
10	Thompson Abigail, heirs	5,000	30 00		
11	Thomson & Jenkins	14,200	85 20	400	2 40
1	Thoreau John, heirs	7,000	42 00		
4	Thorndike Larkin	4,800	28 80		
4	Thorndike Edward	10,500	63 00		
6	Thorndike James P.	6,000	36 00	20,000	120 00
6	Thorndike Augustus	91,800	550 80		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
7	Thorndike Sarah	54,000	324 00	10,000	60 00
9	Thorndike John H.	8,800	52 80	400	2 40
9	Thorndike Charles, heirs	46,000	276 00		
10	Thorndike John P.	225,000	1,350 00	5,000	30 00
11	Thorndike Ebenezer	22,900	137 40	10,000	60 00
12	Thurston Caleb	9,700	58 20	2,000	12 00
4	Thwing William	7,600	45 60		
8	Thwing William & Co.			12,000	72 00
7	Ticknor George	92,000	552 00	70,000	420 00
7	Ticknor William D. & Co.			10,000	60 00
3	Tidd Ruth	9,400	56 40		
9	Tidd Jacob, heirs	13,000	78 00		
8	Tighe Lucy, heirs	5,200	31 20		
6	Tilden Joseph	2,800	16 80	3,000	18 00
8	Tilden Thomas	24,800	148 80		
9	Tilden David	14,000	84 00	18,000	108 00
10	Tilden Joseph	50,000	300 00	50,000	300 00
4	Tileston William, heirs	8,000	48 00		
6	Tileston Otis	8,000	48 00		
9	Tileston Thomas	50,600	303 60	200	1 20
9	Tileston Mary, heirs	8,000	48 00		
10	Tileston Timothy	13,700	82 20	5,500	33 00
3	Tillson David	6,100	36 60	3,000	18 00
12	Tillson John	13,000	78 00	5,000	30 00
2	Tilton Stephen & Co.			10,000	60 00
4	Timmins Henry	21,000	126 00		
1	Tirrell Edward C.	13,000	78 00	2,000	12 00
3	Tirrell Artemas	20,000	120 00		
10	Tirrell John	3,400	20 40	2,000	12 00
11	Tirrill Isaac	7,400	44 40	800	4 80
11	Tirrill Oakes	5,200	31 20	800	4 80
4	Tisdale Mace	71,000	426 00		
8	Tisdale & Hewins & Co.			70,000	420 00
7	Titcomb Samuel C.	5,800	34 80	400	2 40
8	Todd Jacob, heirs	12,600	75 60		
11	Todd Thomas	13,200	79 20	800	4 80

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
10	Tolman Henry, heirs	7,000	42 00		
4	Tombs Michael	11,600	69 60	4,500	27 00
4	Tombs Michael & Co.			5,000	30 00
11	Tompkins Abel			5,000	30 00
8	Topliff Samuel	6,800	40 80	42,300	253 80
8	Topliff & Evans			5,000	30 00
3	Torrey Joseph, heirs	8,000	48 00		
4	Torrey Samuel & J G.	11,000	66 00		
5	Torrey George W.			10,000	60 00
7	Torrey Samuel	23,000	138 00	30,000	180 00
9	Torrey Charles	17,000	102 00	2,000	12 00
9	Torrey John G.	26,000	156 00	30,000	180 00
4	Towne Orr N.			25,000	150 00
8	Towne, Waldo & Co.			10,000	60 00
2	Townsend Isaac P. & Co.			10,000	60 00
3	Townsend Eliza & Mary	53,000	318 00	18,000	108 00
4	Townsend Solomon D.	9,500	57 00	5,000	30 00
4	Townsend David S.	9,000	54 00	3,000	18 00
4	Townsend Isaac, heirs	21,000	126 00		
4	Townsend Thomas B. & Son			7,000	42 00
6	Townsend Elmer			5,000	30 00
10	Townsend David, heirs	7,500	45 00		
5	Tracy Sophia	8,000	48 00		
8	Traders' Bank			13,000	78 00
3	Trafton Charles A.	6,300	37 80	400	2 40
2	Train Enoch	14,800	88 80	30,000	180 00
4	Train Samuel	72,000	432 00		
4	Traip Robert W.			30,000	180 00
10	Treadwell John W., trustee	10,000	60 00		
2	Tremere John	12,600	75 60		
3	Tremont Manufacturing Co.	15,200	91 20		
8	Tremont Bank	46,000	276 00		
11	Tremont Brewing Co.			10,000	60 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount
12	Tresscott	2,400	14 40	2,000	12 00
4	Trott & Bumstead			20,000	120 00
7	Trott George	16,000	96 00		
1	Trowbridge John H.	27,000	162 00	600	3 60
6	Trueman Robert			12,000	72 00
2	Trull & Miller			6,000	36 00
3	Trull Samuel	10,000	60 00	200	1 20
4	Trull John	17,800	106 80		
4	Trull Ezra	99,200	595 20	5,000	30 00
7	Trull John W.	186,200	1,117 20	15,000	90 00
9	Turnbull George C.	5,000	30 00		
12	Trustees Hawes Fund	13,300	79 80		
3	Tucker John C.	4,400	26 40		
4	Tucker William W.	14,000	84 00		
7	Tucker John L.			20,000	120 00
7	Tucker Joshua			7,000	42 00
7	Tucker John	18,000	108 00	600	3 60
7	Tucker William			5,000	30 00
9	Tucker Thomas	5,000	30 00		
11	Tucker Stephen	7,600	45 60	1,400	8 40
11	Tucker Joseph C.	4,200	25 20	1,000	6 00
4	Tuckerman Edward, heirs	207,200	1,243 20		
7	Tuckerman Sophia	32,000	192 00		
8	Tuckerman William	5,000	30 00		
4	Tudor Frederick	74,000	444 00	15,000	90 00
4	Tufts Nathan, 2d	8,000	48 00		
4	Tufts, Harvey & Co.			18,009	108 00
5	Tufts William	4,000	24 00	3,000	18 00
7	Tufts Quincy			45,000	270 00
9	Tufts Hannah	15,000	90 00		
9	Tufts Fitch	8,000	48 00		
10	Tufts Charles	4,000	24 00	400	2 40
1	Turner Job	24,400	146 40		
2	Turner Albion	6,000	36 00		
3	Turner Paul S., heirs	5,600	33 60		
5	Turner Job A.	9,000	54 00		
5	Turner Roswell W.	9,000	54 00	600	3 60

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
6	Turner Otis	5,400	32 40	1,600	9 60
10	Turner Joshua	40,800	244 80		
3	Tuttle John	8,000	48 00	400	2 40
9	Tuttle Jedediah	5,400	32 40	8,000	48 00
2	Twombly & Lamson			18,000	108 00
4	Tyler John S.	8,600	51 60		
4	Tyler John S. & W. C.			5,000	30 00
7	Tyler John	10,000	60 00	75,000	450 00
11	Tyler John jr.	12,000	72 00	5,000	30 00
11	Ulmer Jacob	8,400	50 40	400	2 40
7	Underwood William	12,600	75 60	8,000	48 00
4	Union Bank	154,000	924 00	34,000	204 00
8	United States Ins. Co.	35,400	212 40		
4	Upham Phineas	53,000	318 00	150,000	900 00
8	Upham, Appleton & Co.			30,000	180 00
8	Upham & Eastman			8,000	48 00
10	Upham Thomas	5,000	30 00	10,000	60 00
1	Urann Joseph	6,200	37 20	400	2 40
11	Urann & French	14,000	84 00		
4	Valentine Charles & Co.			5,000	30 00
5	Valentine William J.	17,600	105 60	5,000	30 00
10	Van Ransellear John	15,000	90 00		
11	Varney Charles	11,200	67 20	200	1 20
4	Varnum William	11,000	66 00	400	2 40
1	Veazie Eli	7,600	45 60		
1	Veazie Joseph	10‘700	64 20		
2	Veazie Eli and Eben V. Gay, heirs	7,000	42 00		
9	Veazie John W.	7,000	42 00	6,000	36 00
1	Vernon Eliza D.	19,800	118 80		
4	Viles & Atkins	22,000	132 00	20,000	120 00
1	Vinal Nathaniel	17,600	105 60	5,000	30 00
2	Vinal & Blanchard			14,000	84 00
3	Vinal Albert & Co.			12,000	72 00
4	Vinal David	28,000	168 00	500	3 00
4	Vinal Otis			5,000	30 00
5	Vinal Gideon, heirs	4,600	27 60		
10	Vinal Gurdon M.	22,000	132 00		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
10	Vinal David and Otis	22,000	132 00		
4	Vinton John R.	7,000	42 00		
7	Vinton Thomas J.	19,600	117 60		
9	Vinton Josiah, trustee	6,400	38 40		
12	Vinton Josiah	11,400	68 40	8,000	48 00
4	Vose Elijah	49,000	294 00		
4	Vose Francis			5,000	30 00
6	Vose Thomas B.	9,000	54 00		
10	Vose Ebenezer	24,800	148 80		
10	Vose Josiah	57,600	345 60	50,000	300 00
11	Vose Nathaniel D.	10,400	62 40	200	1 20
11	Vose Isaac, heirs	14,000	84 00		
2	Wade John, jr.	4,800	28 80		
6	Wade Eben H.			7,000	42 00
4	Wadleigh George F. R.	8,000	48 00	6,000	36 00
4	Wadsworth Alexander	10,500	63 00	2,000	12 00
6	Wainwright Benj. G.			25,000	150 00
7	Wainwright Henry	8,000	48 00		
8	Wainwright & Tappan			20,000	120 00
9	Wainwright Henry, heirs	8,000	48 00		
4	Waite, Pierce & Co.			8,000	48 00
5	Waite Charles	5,400	32 40	3,000	18 00
5	Waitt Isaac B.	4,000	24 00	3,000	18 00
6	Waitt Henry	6,000	36 00		
2	Wakefield Enoch H.			7,000	42 00
7	Walcott Joshua H.			37,000	222 00
8	Waldo William T.	28,000	168 00	6,000	36 00
7	Wales Thomas B.	87,400	524 40	170,000	1,020 00
9	Wales Thomas B. & Co.			50,000	300 00
9	Wales Thomas B. jr.			5,000	30 00
10	Wales Samuel jr.	7,400	44 40	3,000	18 00
11	Wales Thomas B. and others	10,000	60 00		
4	Walker William J.	51,300	307 80		
5	Walker Cornelius	4,000	24 00	1,000	6 00
7	Walker Amasa	14,000	84 00		
8	Walker Samuel A.	32,000	192 00	3,000	18 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
8	Walker & Brother			20,000	120 00
9	Walker Wildes P.	7,400	44 40	25,000	150 00
9	Walker Ezra	6,600	39 60		
9	Wallach Moses, heirs	8,000	48 00		
7	Walley Samuel H.			5,000	30 00
7	Walley Samuel H., trustee	76,000	456 00	14,000	84 00
7	Walley Mirriam C.			25,000	150 00
7	Walley Abigail B. P.			30,000	180 00
5	Wallis Mordecai L.	45,900	275 40	2,000	12 00
5	Walsh Richard, heirs	14,600	87 60		
8	Walsh John & Edward	8,000	48 00		
8	Walsh Richard	19,400	116 40	1,600	9 60
4	Walter Lynde	200	1 20	5,000	30 00
7	Walworth & Nason			5,000	30 00
6	Wamsley Henry	4,200	25 20		
1	Ward Mary	6,000	36 00	5,000	30 00
4	Ward Samuel G. & Co.			15,000	90 00
7	Ward Thomas W.	39,000	234 00	110,000	660 00
7	Ward Artemas	59,200	355 20	50,000	300 00
7	Ward Samuel D.	18,600	111 60	7,000	42 00
7	Ward John, heirs	20,200	121 20		
7	Ward Joseph W.	12,000	72 00		
7	Ward Thomas W., trustee			5,000	30 00
4	Ware John	64,000	384 00	7,000	42 00
5	Ware Horatio G.	5,000	30 00	6,000	36 00
5	Ware Daniel L.	5,000	30 00	5,000	30 00
10	Ware Leonard			5,000	30 00
3	Warren Charles and Varnum			10,000	60 00
4	Warren J. Mason			5,000	30 00
4	Warren Moses C.			5,000	30 00
5	Warren Moses	6,600	39 60		
7	Warren John C.	97,000	582 00	110,000	660 00
7	Warren Edward	8,000	48 00		
7	Warren George W. & Co.			35,000	210 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
11	Warren Thomas, heirs	8,000	48 00		
12	Warren Association	25,800	154 80		
12	Warren Thomas B.	5,000	30 00		
3	Washburn Jeremiah & Brother	7,000	42 00		
5	Washburn Jeremiah	3,400	20 40	2,000	12 00
5	Washburn Jeremiah & William	8,000	48 00		
6	Washburn Abiel jr.	11,000	66 00	12,000	72 00
6	Washburn William R. P.	6,000	36 00	18,000	108 00
6	Washburn William R. P., ex'r			7,000	42 00
8	Washburn Calvin & Co.			15,000	90 00
8	Washington Bank	17,400	104 40	13,000	78 00
4	Wason, Pierce & Co.			20,000	120 00
4	Waterhouse Louisa	7,500	45 00		
4	Waterman Nathaniel	10,000	60 00	5,000	30 00
4	Waters Isaac	11,000	66 00		
10	Waters John	6,600	39 60	1,000	6 00
8	Waterston & Pray	205,600	1,233 60		
8	Waterston, Pray & Co.			50,000	300 00
8	Waterston Robert	14,000	84 00		
10	Watson Abraham A.	9,000	54 00	600	3 60
3	Watts Francis O.			5,000	30 00
3	Watts Francis O., guardian			8,000	48 00
3	Watts Francis	6,000	36 00	2,000	12 00
11	Way Samuel A.	22,600	135 60	600	3 60
6	Wayland Francis	14,400	86 40		
9	Weatherbee Elijah T.	12,000	72 00	2,600	15 60
2	Webb Nathan	8,600	51 60		
4	Webb Thos. H. & Co.			5,000	30 00
6	Webb George J.	3,400	20 40	2,000	12 00
7	Webber Aaron D.	29,200	175 20	1,500	9 00
11	Webber John	9,000	54 00		
2	Webster & Co.			5,000	30 00
2	Webster Redford, heirs	7,800	46 80		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
8	Webster J. & H. A.			5,000	30 00
9	Webster D. Fletcher	7,000	42 00		
4	Weeks Eben'r	6,000	36 00		
4	Welch John	18,400	110 40		
6	Welch Francis	89 600	537 60	10,000	60 00
4	Weld William F.	32,600	195 60	35,000	210 00
4	Weld David & Co.			10,000	60 00
4	Weld Aaron D.	8,000	48 00	600	3 60
6	Weld Francis M.			8,000	48 00
8	Weld James & Co.	18,000	108 00	12,000	72 00
8	Weld Wm. F. & Co.			40,000	240 00
9	Weld James	17,800	106 80		
11	Weld Daniel	35,000	210 00	33,000	198 00
4	Welles Arnold F.	79,500	477 00	15,000	90 00
6	Welles Benjamin	48,800	292 80	110,000	660 00
6	Welles Titus	7,000	42 00	25,000	150 00
6	Welles Howard and Loring, trustees			20,000	120 00
7	Welles Samuel, heirs	21,000	126 00		
7	Welles John	293,800	1,762 80	150,000	900 00
7	Welles John and Hannah J. Taylor	42,000	252 00		
2	Wellington & Lamb			8,000	48 00
4	Wellington Alfred A.	3,600	21 60	5,000	30 00
1	Wells John B.	5,600	33 60	4,000	24 00
3	Wells Catharine	7,600	45 60		
4	Wells Samuel A. heirs	9,000	54 00		
9	Wells Charles	30,400	182 40	5,000	30 00
6	Welsh Walter	5,800	34 80	20,000	120 00
2	Wentworth Philip, heirs	46,000	276 00		
4	Wentworth, Sweetser & Co.			5,000	30 00
6	Wentworth Arioch	8,000	48 00	5,000	30 00
7	Wenzell Henry			5,000	30 00
4	West Joseph & Co.			10,000	60 00
4	West & Allen			6,000	36 00
6	West Joseph	10,000	60 00		
8	West Ann	6,600	39 60		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
10	Wescott Edward	9,600	57 60	1,000	6 00
2	Weston Ezra & Sons			110,000	660 00
11	Wetherbee John, jr.	12,600	75 60		
8	Wetherell, Cragin & Co.			25,000	150 00
4	Wetmore Augusta	8,000	48 00		
9	Wetmore Thomas	32,600	195 60	15,000	90 00
4	Whalan James, heirs	9,000	54 00		
7	Wheaton Laban, jr.	14,000	84 00		
2	Wheeler & Briggs			5,000	30 00
8	Wheeler Joseph P.	7,400	44 40	25,000	150 00
9	Wheeler Jonathan, heirs	6,000	36 00		
10	Wheeler Gillam B.	4,600	27 60	1,000	6 00
10	Wheeler Benj.	50,500	303 00	7,000	42 00
10	Wheeler Nathan	40,600	243 60	400	2 40
11	Wheeler Joel	11,800	70 80	600	3 60
11	Wheeler Jos. N.	4,800	28 80	400	2 40
5	Wheelock Dwight	4,000	24 00	3,500	21 00
5	Wheelock Fordyce F.	4,500	27 00		
7	Wheelock Ellen B.			20,000	120 00
8	Wheelock, Pratt & Co.			7,000	42 00
10	Wheelock Hiram	4,600	27 60		
4	Wheelwright Caroline	39,000	234 00	29,000	174 00
4	Wheelwright Sam'l			5,000	30 00
8	Wheelwright John and others	7,000	42 00		
8	Wheelwright Sam'l, heirs	8,000	48 00		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount
8	Wheelwright John	12,400	74 40		
9	Wheelwright Dan'l	4,400	26 40	2,000	12 00
9	Wheelwright Dan'l, adm'r			10,000	60 00
12	Wheelwright Lot			25,000	150 00
10	Whiston Francis C.	19,600	117 60	1,000	6 00
8	Whittaker Josiah			5,000	30 00
3	White & Emerson	6,000	36 00		
4	White Artemas	4,000	24 00	1,000	6 00
5	White Mary	6,200	37 20		
5	White Edward	4,500	27 00	300	1 80
6	White Ann G.	10,000	60 00		
7	White Benj. F.	21,000	126 00	50,000	300 00
7	White Charles	10,400	62 40		
7	White Charles & Son			10,000	60 00
7	White Charles A. & Co.			15,000	90 00
8	White Nancy	17,400	104 40		
8	White Elizabeth	5,000	30 00		
8	White, Stedman & Co.			20,000	120 00
8	White Benj. C.	4,000	24 00	24,000	144 00
10	White Elihu	4,000	24 00	1,000	6 00
11	White & S. Hunt	4,200	25 20		
11	White Lyman	3,600	21 60	1,000	6 00
11	White William S.	38,200	229 20	40,000	240 00
11	White Warren	11,000	66 00	3,000	18 00
4	Whiting James & Co.			5,000	30 00
5	Whiting Caleb, heirs	7,000	42 00		
6	Whiting Jos., heirs	6,800	40 80		
3	Whitman Freedom	4,400	26 40		
3	Whitman Nathan	4,800	28 80		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
4	Whitman Davis, heirs	8,000	48 00		
9	Whitman Geo. H.	17,200	103 20	4,000	24 00
9	Whitman Rosanna	22,200	133 20		
9	Whitman Benj. G.	10,600	63 00		
12	Whitman Caleb	15,900	95 40	2,000	12 00
4	Whitmore Chas. O.	10,000	60 00		
2	Whitney Jonathan, heirs,	77,000	462 00		
5	Whitney Wm. F.	17,700	106 20	50,000	300 00
5	Whitney Ephraim	9,500	57 00	500	3 00
5	Whitney Paul	6,000	36 00		
7	Whitney & Howland			20,000	120 00
7	Whitney Eli M.			5,000	30 00
7	Whitney Daniel D.			7,000	42 00
7	Whitney Joseph	22,000	132 00	25,000	150 00
7	Whitney Israel	13,000	78 00	10,000	60 00
8	Whitney & Fenno			25,000	150 00
8	Whitney Levi	10,000	60 00	4,000	24 00
8	Whitney Joseph & Co.			60,000	360 00
9	Whitney William	10,600	63 60	20,000	120 00
11	Whitney James S.	4,600	27 60		
4	Whiton James M.	7,400	44 40		
8	Whiton & March			8,000	48 00
8	Whiton, Meserve & Co.			8,000	48 00
11	Whiton Ebed	4,600	27 60	5,000	30 00
2	Whittemore Benj. F.	17,000	102 00	6,000	36 00
5	Whittemore George W.	7,500	45 00		
8	Whittemore George	5,400	32 40	20,000	120 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
8	Whittemore W. & F. H.			10,000	60 00
9	Whitten Mary	14,000	84 00		
3	Whitwell Samuel, heirs	57,000	342 00		
6	Whitwell Lucy	6,600	39 60		
7	Whitwell, Seaver & Co.			12,000	72 00
10	Whitwell John P.	18,400	110 40		
1	Wiggin James S.	18,000	108 00		
2	Wiggin Charles E.	6,400	38 40	12,000	72 00
4	Wiggin & Morse			10,000	60 00
5	Wiggin Benjamin, heirs	5,000	30 00		
8	Wiggin James S. & Co.			15,000	90 00
7	Wigglesworth Thomas	188,200	1,129 20	110,000	660 00
8	Wigglesworth Thos., jr.			5,000	30 00
9	Wigglesworth Sam'l			10,000	60 00
9	Wigglesworth Edward			20,000	120 00
4	Wight Adams	8,000	48 00	2,000	12 00
8	Wight & Reed			25,000	150 00
11	Wightman Jos. M.	4,800	28 80	400	2 40
5	Wilbur Asa	31,600	189 60	5,000	30 00
4	Wild James C. Cashier			9,000	54 00
6	Wild James C.			5,000	30 00
6	Wilde Samuel S.			10,000	60 00
6	Wilde George C.			5,000	30 00
7	Wilder Martin	6,000	36 00	1,200	7 20
8	Wilder Thomas	4,800	28 80		
9	Wilder Sarah	5,000	30 00		
11	Wilder Lewis	5,600	33 60		
8	Wildermuth John, heirs	6,000	36 00		

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
4	Wildes Solomon	80,000	480 00	15,000	90 00
4	Wilkins John H. and others	21,000	126 00		
4	Wilkins John H.	26,000	156 00	5,000	30 00
4	Wilkins Chas. & Co.			20,000	120 00
7	Wilkins John H. & R. B. Carter			8,000	48 00
10	Wilkins Levi	5,600	33 60		
10	Wilkins Charles	16,600	99 60	7,000	42 00
2	Wilkinson & Pratt	10,600	63 60		
4	Wilkinson Simon	12,000	72 00	22,000	132 00
9	Willard Simon, jr.	4,400	26 40	6,000	36 00
10	Willard & Evans			5,000	30 00
11	Willard Aaron,	6,000	36 00		
11	Willard Aaron, jr.	8,000	48 00		
10	Willcutt Susannah	8,200	49 20		
10	Willett Jos., heirs	7,000	42 00		
1	Williams Thomas, heirs	30,400	182 40		
2	Williams John, heirs	6,000	36 00		
4	Williams & Pearson			8,000	48 00
4	Williams John D. & M.	5,600	33 60	60,000	360 00
4	Williams Moses	115,400	692 40		
4	Williams Elijah & Co.			35,000	210 00
5	Williams Horatio	10,600	63 60		
5	Williams Deodat	8,000	48 00		
7	Williams Nath'l L.	9,400	56 40	13,000	78 00
7	Williams Joshua H. heirs	14,600	87 60		
7	Williams Susan			20,000	120 00
7	Williams Rebecca A.	7,000	42 00	25,000	150 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
7	Williams Nathaniel L. and others	15,600	92 40		
8	Williams John S.			8,000	48 00
8	Williams Robert, heirs	9,600	57 60		
9	Williams Eliphalet	6,000	36 00	5,000	30 00
9	Williams Thomas	5,000	30 00		
9	Williams David W.	14,600	87 60	11,000	66 00
10	Williams Isaac	17,400	104 40	5,000	30 00
10	Williams Edward A.	4,000	24 00	5,000	30 00
10	Williams Horace	5,600	33 60	1,000	6 00
10	Williams Susannah, in trust	40,200	241 20		
10	Williams Horace H.	5,000	30 00		
10	Williams Samuel K.	37,300	223 80	35,000	210 00
10	Williams John			15,000	90 00
11	Williams John D.	588,700	3,532 20	40,000	240 00
12	Williams Samuel K. and others	12,900	77 40		
12	Williams John, heirs	7,600	45 60		
8	Williamson & Smith			5,000	30 00
6	Willis Dean	6,300	37 80		
7	Willis Stillman	45,400	272 40		
7	Willis & Co.			5,000	30 00
8	Willis Benjamin	47,600	285 60	35,000	210 00
8	Willis Benjamin, jr.	11,600	69 60	10,000	60 00
9	Willis Nathaniel	8,000	48 00	2,000	12 00
9	Willis Clement	21,400	128 40	2,000	12 00
10	Wilmarth Seth	12,000	72 00	2,000	12 00
2	Wilson John	3,000	18 00	3,000	18 00
3	Wilson James	4,500	27 00	1,500	9 00
3	Wilson George W.	4,600	27 60	1,000	6 00
3	Wilson Jason, heirs	9,000	54 00		
7	Wilson John, jr.,	3,000	18 00	2,000	12 00
7	Wilson Wm. H. & Co.			5,000	30 00
1	Winchester Fitz Edw'd	5,200	31 20	400	2 40
1	Winchester Stephen	6,000	36 00		
4	Winchester Amasa	9,000	54 00		
4	Winchester E., A. & W.			55,000	330 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
7	Winchester William P.	30,000	180 00	200,000	1,200 00
1	Wingate & Gardner	4,600	27 60		
2	Winnesimmet Ferry Co.	9,000	54 00		
2	Winslow Isaac & Sons	5,000	30 00	15,000	90 00
2	Winslow Benjamin P., executor			5,000	30 00
4	Winslow Hubbard	10,000	60 00	500	3 00
4	Winslow Isaac	18,000	108 00		
8	Winslow Edward	1,400	8 40	5,000	30 00
4	Winsor Henry			5,000	30 00
4	Winsor Henry, assignee to C. Cole, jr.	37,400	224,40		
5	Winsor Edward	3,600	21 60	3,000	18 00
6	Winsor Wealthy	5,000	30 00		
6	Winter Francis B.	5,800	34 80	600	3 60
4	Winthrop Mrs.	18,000	108 00		
6	Winthrop Thomas L., heirs	217,400	1,304 40		
7	Winthrop Robert C.	34,700	208 20	20,000	120 00
9	Wiswell Elisha	13,800	82 80	4,000	24 00
1	Wiswell Dexter W.	3,600	21 60	1,500	9 00
1	Wiswell William	3,600	21 60	1,500	9 00
1	Withington Henry B.	4,000	24 00	400	2 40
11	Withington Josiah	3,200	19 20	1,000	6 00
6	Wolcott Jabez	5,000	30 00		
6	Wolcott & Lincoln			5,000	30 00
2	Wood Benjamin, 2d	4,600	27 60		
2	Wood Josiah	8,800	52 80		
4	Wood & Cook			12,000	72 00
6	Wood Timothy B.	4,600	27 60	400	2 40
6	Wood Amos	7,600	45 60	4,000	24 00
5	Woodberry John	11,500	69 00	1,000	6 00
6	Woodbury Charles	4,400	26 40	400	2 40
4	Woodford Philip	8,000	48 00		
3	Woodman David	5,000	30 00	800	4 80
5	Woods Michael	7,500	45 00	2,000	12 00
7	Woods Oliver	7,000	42 00	3,000	18 00
9	Woods Samuel	6,600	39 60		
3	Woodward Elisha	24,600	147 60	1,000	6 00

Ward.	NAMES.	Real.	Amount.	Personal.	Amount.
6	Worcester Thomas	11,000	66 00	1,200	7 20
9	Worster John	5,000	30 00		
8	Worthington William & Co.			10,000	60 00
10	Worthington Francis	17,000	102 00		
4	Worthley Daniel	8,000	48 00	4,000	24 00
3	Wright Phineas	5,000	30 00		
5	Wright George	4,000	24 00	2,500	15 00
5	Wright Edmund & W. Wright, guardians	8,000	48 00		
5	Wright Mary	8,400	50 40	15,000	90 90
5	Wright Caleb	7,000	42 00	2,000	12 00
5	Wright Edmund	8,500	51 00	25,000	150 00
8	Wright Obadiah, heirs	6,000	36 00		
8	Wright Jonathan	5,600	33 60		
8	Wright William	23,000	138 00	3,000	18 00
8	Wright, Priest & Co.			50,000	300 00
8	Wright Winslow	18,000	108 00		
7	Wyman Edward & Co.			6,000	36 00
10	Wyman James			16,000	96 00
10	Wyman William, heirs	18,200	109 20	4,600	27 60
6	Yates & McIntire	5,400	32 40		
9	Yeaton Benjamin	24,000	144 00	4,000	24 00
12	Yendell George	9,400	56 40	400	2 40
2	Young Thomas, heirs	15,800	94 80		
2	Young Andrew P., heirs	8,600	51 60		
8	Young Mary	22,000	132 00		
8	Young G. & W. & R. S.	6,000	36 00		
8	Young Alexander, heirs	5,000	30 00		
8	Young Alexander			15,000	90 00
10	Young Ammi B.			5,000	30 00
3	Yvonnett Alexis	3,000	18 00	2,500	15 00

SAMUEL NORWOOD,
GEORGE JACKSON,
HENRY SARGENT, } *Assessors.*

Assessors' Office,
Boston, March 11, 1845.

City Document—No. 11.

CITY OF BOSTON.

UNACCEPTED STREETS.

In the Board of Aldermen, March 10, 1845.

The Joint Special Committee to whom was recommitted the report of the Committee on the petition of Isaac C. Pray and others, upon the subject of the unaccepted Streets, and the connection of the

City authorities therewith, Report, that the following Order be substituted in place of the Order annexed to said Report.

Ordered, That the Mayor be requested to make application forthwith to the Legislature, for the passage of such an act, as will authorize the Mayor and Aldermen to cause such unaccepted Streets, within the City, as are or may be laid out, to be duly graded as in their judgment shall require it, and granting power to cause the expense thereof to be equitably assessed upon the land abutting thereon; and providing that such assessment shall have the same lien upon said lands, as other taxes authorized by law, and that no street or way shall hereafter be made in the City, of a less width than thirty feet, except with the consent of the Mayor and Aldermen.

And that a bill be drafted and presented to the Legislature for that purpose.

By order of the Committee,

THOMAS A. DAVIS, *Chairman.*

City Document—No. 12.

CITY OF BOSTON.

ELECTIONS.

In Common Council, March 20, 1845.

Read, laid on the table, and ordered to be printed.

Attest, W. P. Gregg, *Clerk C. C.*

CITY OF BOSTON.

In Common Council, March 20, 1845.

The Standing Committee on Elections and Returns, to whom was referred the Certificates of the members elected to serve in the Common Council, ask leave to

REPORT:

That they have duly examined the same, and found them to be made out and authenticated according to the provisions of the Seventh Section of the City Charter, except those of Theophilus Stover, S. C. Damerest, Thomas Jones, and Calvin W. Haven,—the election of whom was not in conformity with that section. The Seventh Section provides that the members of this Council shall be elected at the annual meeting in December: and if at any of the respective Ward meetings the full number of members are not elected, and the meeting is dissolved, there appears to be no specific provision in the Charter to fill such vacancies. Part of the Committee, therefore, entertaining doubts as to the legality of the election of the above named members, called upon the City Solicitor for his opinion on that point. That officer gave no opinion, but simply referred the Committee to a Report made by a Joint Committee of both branches of the City Government, in 1827, by which it appears they construed the First Section of the City Charter, as giving to the Board of Aldermen authority to issue warrants to fill all vacancies, and that the *practice* (so says the Solicitor) of acting upon that construction has been constant, from that time to the present. Some of the Committee were of opinion that the Thirteenth, instead of the First Section, gave the authority to the Board, and others, that neither of them conferred such authority. As it appears, therefore, to be a question of construction, in determining the legality of the election of the members before named, the Committee have thought proper to present the facts in the case, and leave the decision of it to the Council.

SAMUEL TOPLIFF,
For the Committee.

PROCEEDINGS

BEFORE A

JOINT SPECIAL COMMITTEE

OF THE

MASSACHUSETTS LEGISLATURE,

UPON THE PETITION OF THE

CITY OF BOSTON,

FOR LEAVE TO INTRODUCE A SUPPLY OF

PURE WATER

INTO THAT CITY,

FROM LONG POND.

FEBRUARY AND MARCH, 1845.

REPORTED FOR THE CITY GOVERNMENT,
BY NATHAN HALE, JR.

BOSTON:
1845.
JOHN H. EASTBURN, CITY PRINTER

CITY OF BOSTON.

In Common Council, March 20, 1845.

Ordered, That the Standing Committee on Water be authorized, so far as they deem expedient, to cause the proceedings had upon the petition of the City before a Committee of the Legislature, for the introduction of water from Long Pond into said city, to be printed and distributed for the information of the citizens.

Sent up for concurrence.

P. W. CHANDLER, *President.*

In the Board of Aldermen, March 24, 1845.

Read and concurred.

THOMAS A. DAVIS, *Mayor.*

A true copy.
Attest, S. F. McCleary, *City Clerk.*

INTRODUCTION.

THE Committee of the City Council who were instructed to present to the Legislature the petition of the City praying for the grant of authority to introduce the water of Long Pond for the use of the inhabitants, and to take the necessary measures for promoting the success of that object, deemed it expedient, in addition to the able services of the City Solicitor, to engage other eminent counsel to assist in promoting their call, in the hearing before the Joint Special Committee of the Legislature to whom the petition was referred. The petition was accordingly entrusted to the charge of the Hon. John Pickering, Richard Fletcher, and Charles H. Warren, Esqrs. who gave a constant attendance during twenty-six laborious sessions of the Committee and ably presented the wants and wishes of the petitioners supported by such testimony as was necessary to establish the facts on which the claim of the city properly rested and replied to the objections of the remonstrants. In the course of the hearing it became necessary to go into a thorough investigation of facts and elaborate arguments in reply to testimony produced by the remonstrants and to the grounds assumed by them in opposition to the petition. The result of the inquiry was the unanimous concurrence of the

Committee, consisting of seven members of the two branches of the Legislature in a report, in which all the grounds taken by the petitioners were sustained, and an opinion expressed that the prayer of the petitioners ought to be granted, and in reporting a bill conforming in all respects with the views of the Committee.

This bill in its passage through the Legislature was amended in some particulars, but not in a manner considered by the Committee very material. It has become a law, subject to the determination of the citizens to accept it by a vote to be given at ward meetings to be called for the purpose.

The Committee, regarding the question to be determined as one which would require the intelligent action of the legal voters of the city as well as of the Legislature, and considering that for the purpose of coming to a correct decision an accurate knowledge of facts would be necessary, employed a reporter to take notes of the proceedings before the Legislative Committee, and under the authority of a vote of the City Council they now report in print; presenting a full report of the hearing before the Committee of the Legislature, with a copy of the report of that Committee and the bill thereto appended.

The following is the petition which was referred to he Committee:

To the Honorable the Senate and House of Representatives, in General Court assembled.

The petition of the undersigned, Mayor of the City of Boston, on behalf of the City Council of said city, respectfully shows:

That the legal voters of the City of Boston duly assembled in their respective wards, have recently instructed and advised the City Council to take measures for the introduction of pure soft water into the city;

That accordingly by a resolve of the City Council, it was decided to be expedient to procure a supply of such water, to be brought at the expense of the city from Long Pond, so called in the towns of Natick, Wayland and Framingham, or from any of the sources adjacent thereto, on the condition mentioned in said resolve, and by an order of the City Council, the Mayor was instructed to make immediate application to the Legislature, for the grant of such powers to the City of Boston as may be necessary to carry the said resolve into effect. In pursuance, therefore, of the said resolve and order, the undersigned, on behalf of the City Council of Boston, respectfully makes application directed as aforesaid, in manner following, that is to say:

First. That the City of Boston may be authorised to construct a suitable aqueduct from Long Pond, in the towns of Natick and Wayland, to pass through the towns of Wayland, Weston, Natick, Newton, Brighton, Brookline or Roxbury, as may be found expedient, for the purpose of conveying into and through the said city the waters of said Pond, and those which may flow into the same, and to take and hold the said Long Pond, and the waters flowing into and from the same, and also any other ponds and streams within the distance of four miles of said Long Pond, for the purpose of furnishing a supply of water for the wants of the inhabitants of said city.

Secondly. That in case the said city should not think it advisable to take the water of said Long Pond, the city may be authorized to take the water of Sudbury River, at or near Saxonville, so called, within the town of Framingham, or such portion of said water as shall be sufficient to afford a full supply for the use of the said inhabitants of Boston; and in case the waters of said Long Pond should be taken for the purpose aforesaid, but the quantity thereof should be found insufficient, then that the city may take from the surplus or waste waters of Sudbury River such quantity as the city may find expedient to divert into said Long Pond and aqueduct.

Thirdly. That the city may be authorized to take and hold land along the line of said aqueduct and Reservoir, sufficient for the convenient erection, protection and use of the same, and also for such reservoirs, gates, waterways, drains and water courses, as shall from time to time be found necessary for the preservation and retention of the waters, and the security of said aqueduct, and the works that may be connected therewith.

The undersigned therefore prays that after due proceedings had, such powers may be granted to the City of Boston as shall be requisite in the premises.

On behalf of the City Council of the City of Boston,

MARTIN BRIMMER, *Mayor.*

Boston, January 1, 1845.

The following is a copy of the certificate on the back of the petition of the City of Boston for powers to introduce soft water:

SENATE, *January* 2, 1845.

Laid on the table.

SENATE, *January* 7, 1845.

Referred to Messrs. Lawrence, Newhall and Hall, with such as the House may join.

Sent down for concurrence.

CHARLES CALHOUN, *Clerk*.

HOUSE OF REPRESENTATIVES, *January* 8, 1845.

Concurred, and Messrs. Perkins of Salem, Willard of Millbury, Dwight of Boston, and Galpin of Stockbridge, are joined.

C. W. STOREY, JR., *Clerk*.

Secretary's Office, *April* 19, 1845.
A true copy, WM. TUFTS, *Dep'y Sec'y*.

The several remonstrances against this petition were referred to the same Committee, and notice was given to those interested to appear before it on Wednesday, the 5th day of February, 1845.

MASSACHUSETTS LEGISLATURE.

Joint Special Committee on the petition of the City of Boston for leave to introduce Pure Water into the City from Long Pond.

In this case there were a number of remonstrances, to wit:—

1st—Joseph Tilden and others of Boston, represented by William J. Hubbard, Esq.

2d—Charles W. Cartwright and others of Boston, represented by Derby & Fuller.

3d—Paul Curtis and others of Medford.

4th—Proprietors of Middlesex Canal, represented by B. R. Curtis, Esq.

5th—J. B. Faulkner and others of Billerica, represented by B. R. Curtis, Esq.

6th—R. G. Shaw and others, on behalf of East Boston, represented by D. S. Greenough, Esq.

7th—Oliver M. Whipple of Lowell.

[Several other remonstrances were handed in the course of the hearing at later sessions of the Committee.]

Mr. Pickering, the City Solicitor, appeared for the City of Boston, assisted by Charles H. Warren and Richard Fletcher, Esqrs.

FRIDAY, JAN. 31, 1845.

The Committee met and was called to order by Hon. Myron Lawrence, Chairman, and after the appearances of the petitioners and the several remonstrants had been made, the Committee adjourned until Wednesday afternoon, February 5th, at 3½ o'clock.

SECOND AND THIRD SESSIONS. *Wednesday and Friday, February 5th and 7th.*

C. H. WARREN, ESQ. opened the case for the petitioners. He read the petition of the city signed by Hon. Martin Brimmer, its Mayor. He said that this petition was a very simple one, and there was nothing upon the face of it, nothing in its general aspect, nothing in its inherent character which would seem to account for the delays and disappointments to which the city had been subjected, in its attempt to procure a supply of water ; or for the present array against this petition. It was the petition of the City Government, acting as such under the clause of the Charter which made it their duty to " provide for the health, security, cleanliness and comfort of the city." It was not the petition of speculating individuals seeking to accumulate wealth to themselves outof the wants of the many, but that of the City Government acting for and under the instruction of 110,000 people, a constituency forming one-seventh part of the whole population of Massachusetts. It simply asked for powers to do a work that should operate for the security of property, the preservation of health, the promotion of cleanliness, and the extension of comfort. It did not ask for aid from the government of the Commonwealth, nor for powers to trample on any rights of individuals or of the public, but simply for leave to do what should be necessary for the supply of a great public want, making proper compensation for every injury which might be caused in so doing.

There were but two questions arising under this petition for the consideration of the Committee ; viz :—

1st—Is there a necessity for such a supply of water as is asked for ?

2d—Is the proposed plan expedient ?

And as to the first question he might ask the Committee *who knew best* the extent of this want ? Was it not conclusively shown as by seven thousand witnesses by the vote directing the City Government to present this petition ? This was a vote given in no sudden excitement but after long and patient deliberation. It was not the result of appeals to classes or parties—it had no admixture of politics—it was the direct, solemn and deliberate assurance of those best qualified to judge of the want, that such a want existed.

To show the nature of the examination which had been made upon this subject, the extent to which the want of water was felt in the city, and the extreme deliberation with which the city had proceeded up to the time when this petition was presented, Mr. Warren then went into a detailed history of the movement from 1825 up to that time, quoting from the records of the city to show that in almost every year there had been petitions upon the subject to the City Councils, allusions to it by several Mayors in their annual communications, and in many Committees appointed to examine it ; that several surveys had been made and full reports presented and printed.

He thus brought the history of the matter down to 1844, in the spring or summer of which year he said, a movement or series of movements was commenced which showed a determination on the part of the citizens either to have a supply of water, or to go away from the Legislature unsucessful beggars. From the last July till September a series of public meetings was held in the city, at which the Mayor presided, to discuss the merits of the question. They were not caucusses to unite the friends or opponents of any particular measure, but meetings for deliberation and examination of the whole question. The largest liberty was allowed to all. No vote was taken at the earlier meetings, but they were adjourned day after day through the summer to give time for a full and careful examination and they were enlightened by the views and information of every one who chose to enlighten them.

Such was the state of public opinion in the city that the City Council again took the matter under consideration. This met the objection that the Council and not the citizens were those who should take measures for this purpose, if that ultra constitutional conservative ground was to be taken. For the City Council themselves asked the opinion of the citizens upon the question. They saw the importance of it, and considered it one of those cases where it was their duty to shift the responsibility to a certain extent and to ask for the decision of their constituents. Accordingly in December last they submitted four propositions to the people for their decision.

The first of these asked the question of the voter whether he wished to have a supply of water brought in at the expense of the city from Long Pond and the sources adjacent to it. The warrants had been issued regularly, there was a deliberate vote uninfluenced by tumult or by party divisions which resulted in 6269 yeas and 2204 nays. The next question was whether the voter would request the City Government to take the measures necessary to carry out the plan indicated by the first; it was a test of the confidence in the opinions held by those who had voted in the affirmative on that. The replies were :—yeas 6252 nays 2207, and the vote on these two questions showed a majority of *three to one* in favor of bringing in the water from Long Pond, and even that of course did not fully express the majority desirous of introducing water from some source.

The next question was whether the voter was in favor of introducing water from any source the Council might select. To vote in the affirmative would lead to farther delay and the vote was yeas 1206 nays 7081. It was apparent that all the "yeas" were in favor of bringing water from some source and formed a part of the negative vote on the two first propositions, so that the vote in favor of the introduction of water from *some source* would be brought up to over 7000. The fourth question whether the voter would advise the Council to apply for a charter under the 3d proposition was answered by yeas 1194, nays 7144.

As the result of these proceedings the City Council of the previous year presented the petition now before the Committee, and a new City Council having gone into power on the first of January, by their authority he (Mr. Warren) and his associates appeared in support of that petition.

This general statement which would be substantiated by the City Records, was all that they proposed to adduce in support of the first point, that there was a necessity for some new supply of water for the city. No attempt would be made to appeal to the feelings of the Committee. The citizens did not pretend to be in a dying state, demanding immediate action to preserve their lives. He had intimated that the water was needed on the score of health ;—it was so more or less, the Committee could judge how far. As to property ; it would save 100,000 dollars in insurance, if there was the same reduction in rates as there had been in New York. The saving of expenses now necessary for the increase of the fire department would be very large ; according to the estimate of Mayor Eliot in 1839, about $20,000 annually. The city itself held a large amount of real estate, which would be increased in value by the greater security—perhaps 10 per cent. or $1,000,000.

These were strong grounds for the support of the project, but they were not the strongest. The daily comfort of almost all the inhabitants of the city demanded this interference in their favor—and of this the most stringent evidence had been offered in their calls repeated year after year, and the full votes which had just been stated. He was not advised that this point would be contested. He could not anticipate what objections were to be made, but he did not suppose that the Legislature would be asked to inquire into the necessity of something being done by somebody to supply the existing want. If this were so, the city asked to be allowed to supply it according to the plan of their Commissioners. They came as beggars for a cup of cold water, and hoped that this slight boon—which they felt to be necessary to their health, comfort and prosperity would not be refused. He should call no witnesses to this point of necessity. If it was to be examined in all its details the length of the legislative life would not suffice for the examination. Every inhabitant of the city might be put upon the stand.

Mr. Warren said that he agreed that if this point was not made out, that there was no case for the petitioners—but he should take it for the present as settled that this was a great public necessity, and that it was a great public object, for the benefit of *one-seventh* of the people of Massachusetts, that something should be done, in some way, and by somebody to relieve this necessity. He said that to grant the prayer of this petition was the thing to be done, that it was to be done in the way recommended by the Commissioners, and by this Legislature.

The only remaining question then was as to the expediency of this plan. But what was this question really? The expediency of *what* was to be examined? Not the expediency of involving the Commonwealth in an enterprize without counting the cost; not of supplying a want of the people at the expense of the State; but simply of conferring certain authority on one of the municipal corporations of the Commonwealth, for a purpose which was felt to be necessary. He was not aware that he should be met by the assertion that this was a singular power, or that it would be wresting the authority of the State to an improper or doubtful purpose; but to show that the powers asked had been granted again and again to the people of the Commonwealth, he referred to the act of incorporation granted to Luther Eames and others, for the Jamaica Pond Aqueduct in 1795, a period of fifty years since, (Special Laws, 2 vol. p. 19.) This power had not been confined to the City of Boston. It was extended in 1796, to the town of Greenfield, (Special Laws, 2 vol. p. 93.) There was another case in 1837, (Statutes 1837, p. 160) giving power to the Cambridgeport Aqueduct to lay pipes, take and hold land, &c., just as the city now wished to do, and the damages were to be assessed according to the 116th chapter of the Revised Statutes.

Now before considering this subject further, and without looking into the nature of the objections to this project, or asking who were its opponents, he would ask the Committee if this was not the situation of the petitioners. The water was wanted—the city was the party to bring in the supply—at its own expense—without asking the Commonwealth for one farthing. It had settled down on a project, and declared in favor of it deliberately and advisedly, by a vote of three fourths of those who chose to vote. Who then should gainsay it in this matter? Would the Committee or the Legislature object on the ground that it was a hazardous speculation that the city ought not to undertake? Would they take the city under guardianship and undertake to direct the form of its enterprizes? If it asked for railroads, would they bid it invest its money in ships—or if it wished to manufacture cotton would the Legislature overlook its judgment and compel it to manufacture pins! The citizens were not the wards in chancery of the Legislature, with their judgments under its care and protection. They were able to judge for themselves; and if the Legislature undertook to look into the details of this matter at all, and to base its decision upon the idea of controlling the judgment of the citizens as to the prudence and expediency of the plan, it would be establishing a principle which could not be carried out without the greatest inconvenience. If the object was a worthy, necessary and public object,—if it was not indeed a praiseworthy and necessary one, let us attain it in our own way, so far as our means went and we trampled upon no man's rights. A municipal corporation was even less to be dictated to in such a matter than individuals; what it had deliberately decided upon was to be held prima facie to be a wise and proper course. If the Committee *knew* the waters of Long Pond to be poisonous, and not to be drunk without death or danger, of course they would not give the power asked; but he might assume that neither the Committee or Legislature knew whether this was the best plan or not, and it was safe to leave the city to judge.

Then as to the expense. The city wanted the water and the city would be obliged to pay for it. Suppose it would cost ten millions more than was proposed, the Legislature need not be concerned, for the money would not go out of the Commonwealth. But this case had no such features of recklessness. The city was now taxed for 130 or 140 millions of property. Of this the citizens were willing to expend 2 or 2½ millions for this purpose. They said that they were satisfied that the work could be done for that amount; *they* said so who would alone suffer by the result of an erroneous estimate. To refuse the powers asked from a doubt that the city ought to bear this expense, would be reducing Boston to a state of pupilage; stultifying its citizens by saying that its opinions thus deliberately formed were worth nothing.

It was next to be considered that this plan must be carried out or nothing could be done. In this might be seen one reason for so strong a vote in its favor. It was a great subject, on which much required to be done before a result could be obtained. The people were united upon the great subject, but there would always be on such occasions various plans and projectors. And so in this case, whenever one source had been proposed, the friends of all others rose up against it; and in the consideration of Spot Pond and Long Pond, and Charles River, Dug Pond, Punkapog Pond, and Neponset River, and discussions as to whether each contain six animalculæ or five and a half, and arguments for and against every stream or pond, whether stagnant or otherwise, within twenty miles of the city, might be found a reason for the series of vexatious disappointments with which the history of that matter was full. The people were now tired of this want of concentration of effort, and with six surveys before them, made by distingushed men, with the results of information gathered together by the authority of successive City Governments, with the benefit of ample discussion and deliberation, they now said that they had settled down upon this point and would have the water from this source. There could be no doubt that this was the deliberate opinion of the citizens of Boston. They were to pay the expense of the work, and they had not decided upon it without every opportunity for forming a correct judgment. If they were wrong they must be responsible for their own negligence.

Who were the remonstrants against this project? First, there were some who said that their pecuniary interests would be injuriously affected by the grant of such powers as the Legislature was asked to confer upon the city. Such suggestions ought to be respectfully heard. The city wished to lay no strong hand upon the property or rights of others, and did not ask the Legislature for assistance in any such purpose. But the extent of such injury could not be examined there. The city desired to make the most ample remuneration for all property they might take, all damage they might cause. They wished no help from the Legislature to drive sharp bargains; but this was no place to decide what the damages in each case would be. The Legislature would name the tribunals which would decide these points, and the city would abide their decisions.

Who else were the remonstrants. There were some 5 or 600 citizens of Boston.* The signatures had been obtained to printed forms, and with the usual industry exerted for such purposes, and with the full assistance of that class of busy men who like to gain importance by carrying about petitions. He had said that these remonstrants, who felt that their property and rights were to be attacked, were entitled to a respectful hearing. These stood on a very different footing. He meant no disrespect to the individuals, or to their rights, or their mode of exercising them;—but he did say that when a town had acted on a mooted question as Boston had done upon this, when it had come to a decision in an open and legal manner, upon a matter in which every citizen was concerned,—that if gentlemen who had found that they had failed to convince their fellow citizens when they had the matter under consideration, then came up to the Legislature—by hundreds and not by thousands—he would not say that they ought not to be heard, but if a deaf ear were turned to them no one could not complain. They had had their day of opposition and had failed. This was not an extreme case of mob violence, or thoughtless radicalism to be guarded against, for it was one of the pleasant circumstances with regard to this matter, that it was the result of the movement of no particular class. There no occasion to raise a clamor of poor against rich or rich against poor. This was not the project of merchants alone, or mechanics alone, or of any class alone, but all had united on what they considered the common good of all.

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*This was about the number at the time this opening was made. More signatures were obtained during the time occupied by the hearing, and the reporter believes the number of remonstrants from the city by the time the case was closed before the Committee to have been nearly double the number here named.

He would willingly admit that if this measure had prevailed simply by a majority of one or two or ten the minority might well appeal and ought be heard. But these remonstrants were not replying to a still small voice, they were resisting an overwhelming flood. Nothing had been done in this matter in disregard to the rights of any part of the community, and these remonstrants could not be heard with any degree of favor here unless this was to be a place of appeal for minorities against majorities and where any party dissatisfied with the result of any question of City Government might come to have that question tried over. The true course would be for the Legislature to tell the people of the city to settle these questions among themselves before coming there. The Legislature could not adjudicate upon these family quarrels.

Who were the next class of remonstrants ? They were gentlemen owning land in East Boston who objected to having that part of the city bear any part of the expense of the proposed work. If they were serious in this objection it showed a poor conception of the duties of a good citizen. But if the objection were tenable it would lie against every city tax. As well might a man who should choose to live in the cupola of that building object to the project because the water would not reach his abode. It would be a monstrous doctrine to maintain that every part of land in the city must be individually benefited by every public expense or the owner was not liable for its tax. As well might persons without children object to paying their share of the school tax. The remonstrants seemed to be forgetful that what was for the benefit of the corporation is for the benefit of all. The city pays for the lights, pavements and engines at East Boston. He might as well say that as he was not benefited by the engine at East Boston, he would save his three cents paid towards its support.

Who were the next class of remonstrants ? They were gentlemen afraid of being overtaxed, and on this point every man had a right to be heard, and the Legislature was bound to be careful of the interests of all. But property was well represented by this petition. Five ninths of the voters of Boston pay a property tax. This then was no foray of the poor against the rich. This class of remonstrances was not to be heard. The people of Boston came in a body, and threw themselves at the feet of the Legislature, asking a simple boon. Never was there a more considerate regard for individual rights. He believed indeed that a vast proportion of the wealth of the city was in favor of the project. The condition was self-imposed, that those who used the water should pay for it. There was no proposition to tax farther than that. The petitioners asked that they might have the water upon paying for it. They were willing that the condition that those who used it should pay, should be guarded as strongly as the Legislature saw fit. They had no objection that the water rents should be pledged to the holders of scrip, so that no power on earth could deprive creditors of that lien, or release the users of the water from that debt. He would not contend that at first the rents would pay the whole interest, though there was no doubt that they would eventually. On this ground he might refer them to the opinions of Mayor Eliot on the subject and the example of Philadelphia. If the income in New York had not been sufficient, it arose from peculiarities in the circumstances attending her works to which he need not then advert.

It was said that this was a time of great excitement, and that great efforts had been made. Excitement and efforts about what? Why, about bringing in water at the expense of those who were to use it, which had been determined upon by a vote of 7000 to 1000. How was this excitement got up and by whom? If the citizens did not want the water it was singular that they should ask for it. Great efforts had been made, because it was a great object. The remonstrants also made great effort—if they had *not* it would show they were indifferent—and the result was three to one against them. The printed form of remonstrance stated that the plan was proposed "without regard to the magnitude of the expense." How did they know this? What right had they to say it? There was a degree of assumption in taking this ground rather remarkable, and one petition said that it was "hastily" proposed. He might recur to the whole history of the movement to show that there had been no haste, and now that the Council were acting under the instruction and express direction of the citizens, voting deliberately upon the proposal, and sending the Mayor and others of their body to urge its acceptance here, and employing counsel to support it, and this was called hasty action. What time would satisfy these remonstrants? It appeared that the city had been striving for this object since 1795, and was no nearer to it now than then, and yet it was accused of acting in a hurry.

A remaining class of remonstrants consisted of persons already well supplied with water. We were told that seven out of the 3000 wells of the city furnished water that would wash. The owners of these probably voted against the project. Others did not care for a little chalk and a few animalcules. Others left the city and did not have to drink it at the season it was most injurious. Others did not have their washing done at home. But to all this class of remonstrants we might say, that if any man objected because he was not in want of the water himself, he was entirely forgetful of the duties of a good neighbor, and shewed a selfishness which was unworthy of the privileges of the community in which he lived. And he might tell all such, that if they now felt no compunction for such selfishness, they might soon feel it, when as repeatedly happened, from the digging of new wells, their own sources of supply became worthless.

Many of the signatures to these remonstrances were those of that class of people who sign anything. They discharged important duties, and were often called to exercise them. Those who knew anything of such papers would make an allowance of a large per centage for these persons.

Another ground of objection was from those who, though they wanted water, and sincerely wished that it might be introduced, thought that it had better be done by a private corporation than by the city. This question he did not propose to discuss. It was a proper ground to be taken before the people of the city, and it had been so taken, and failed. They could not now ask the Legislature to advise, but must ask it to say to the citizens ; You shall not do this thing, but others shall do it for you. [Mr. Warren then cited a passage from Mayor Eliot's message in 1839 (City Document for 1839, No. 10) urging that it was better that water should be introduced by the city than by a private corporation.]

This course might, or might not be best, but the citizens were the best judges.

These were the principal objections to the prayer of the petition. They did not shake the case of the petitioners. There was a want that *must be supplied*, unless the Legislature would abandon its care for the interests of its constituents. Who then should supply this want ? The city did not come here for purposes of speculation. It asked no money of them. It had considered the matter and wished to do it in a certain way. This might cost the sum estimated, or more, but the Legislature need not investigate that, because the city would have to pay. This was their case. They did not ask the Legislature to examine the estimates then, but if the remonstrants chose to say they were enormous and preposterous, and that the citizens ought to be sent away as fools incapable of understanding their interests or disregardful of maintaining them, and made that out, they must abide the consequences. Whatever proof they might put in, on these or other points, he believed the city was prepared to meet.

Mr. Warren then put in the certificate of the City Clerk to a copy of the votes on the four propositions, and the city records which had been cited.

After some conversation about the order which should be adopted, with regard to arguments and evidence, the Committee adjourned to Monday afternoon, February 10th.

FOURTH DAY. *Monday, February 10th*, 1845.

After some farther discussion with regard to the order of business, E. H. Derby, Esq. proceeded to open the case on the part of the remonstrants. He said that he did not intend to fritter away time by the introduction of evidence in detail, but was prepared to meet the case upon its merits. His evidence would be taken chiefly from the mouth of the city itself, and he would hand to the Committee a number of documents, to which he should refer them, and which he wished to consider in the case. These were:—

All the City Reports on the subject of Water.

Two Western Rail Road Reports, January 1841 and 1843.

List of persons taxed in Boston, in 1839.

Mr. Coffin's statement of repairs and income of the Croton Aqueduct.

Mr. Wilkins's Pamphlet.

City Document, No. 24.

Water Reports of 1837, '38, and '39.

Illustrations of the Croton Water Works.

Report of Loammi Baldwin, 1834.

Report of the Commissioners, 1837.

Description of the Croton Aqueduct, by Jarvis.

All the Reports on the subject of the Croton Aqueduct, by the Engineers of that work.

Letter from J. P. Hasty, Engineer of the Croton Aqueduct.

Statement of evidence before the Legislative Committee, printed in 1839.

Letter from Hinkley and Drury on the cost of steam engines.

Letter from Cyrus Alger to the City Government.

Report of Robert H. Eddy, jr.

Copy of a vote to print the Reports of the two Water Commissioners.

S. M. Felton's Report.

Mr. Wilkins's addition to his pamphlet.

The New York Herald of Oct. 9 and Dec. 24, 1844.

Mr. Derby read the remonstrance of Jonathan French and 217 others, and then proceeded to say that he was not the advocate of any particular pond or other source as opposed to Long Pond, but he represented the remonstrants from the city,—who now numbered 600, and he hoped before the end of the hearing would be not far from 1000,—and the town of Framingham. The city remonstrances came from Merchants' Hall and the Insurance offices, protesting against what they considered an invasion of private rights, and he proposed to show by the schedule of property taxed in the city in 1843, that these remonstrances represented a large proportion of the wealth of the city. The whole number of voters in the city at the time of the last election was over 19,000. The largest number of votes ever thrown was about 13 or 1400. Now by the schedule above referred to it would appear that,—176 individuals paid $172,000 in taxes upon 30 millions of real estate ; 2200 individuals own over $90,000,000 and 4073 individuals own $107,000,000, while the residue of the taxable property was only $10,000,000, the whole being $117,000,000. If then you should deduct from the 19,000 voters whose name are on the ward lists, the 4073 who pay the taxes on the $107,000,000 of property, there would still remain nearly 15,000 voters who pay little more than the poll tax. [Mr. Derby stated in reply to a question from one of the Committee, that he had no means of showing which way persons voted upon the water question, or whether those who voted were the poll tax voters to which he referred.]

He represented a large proportion of the wealth and property of the city, men who anticipated a failure if this great work was commenced, and who if it resulted in the manner a similar work had in New York, would be obliged to pay the interest on the outlay, which they believed would add 50 per cent. to their taxes. They believed that the action taken in this matter had been precipitate and founded upon erroneous statements ; and in order to show that the citizens had acted unadvisedly, he proposed to prove that notwithstanding the Common Council had voted to distribute together the Reports of the Water Commissioners of 1838 and 1844, one of which was in favor of Spot Pond as a source, and the other of Long Pond, the latter only, which was in favor of Long Pond was circulated before the election, and the former was kept back until after the vote was taken. He believed that this fact had great bearing upon the decision, and that in consequence of it the citizens had voted in the dark upon the propositions.

This was not a matter in which the popular will was decisive upon the subject of a popular want. The city was not associated together, or clothed with municipal authority, for such a purpose as the building of aqueducts. There were other necessaries of life which it might as well undertake to supply, as water. There were air, light, heat, clothing. Next year the city might come in there and ask for powers, under a vote of the citizens, to carry out some new project for supplying heat and gas from the interior of the earth ; or to borrow money at four per cent. to supply clothing for the poor, that the manufacturers need not charge them thirty per cent.

Where were the minority, in such a case, to find a refuge, if not with the Legislature ? That was the high court of appeals which was to stand between the minority and the majority for the protection of the rights of the minority. The counsel had spoken of this merely as an investment, and had said that the money was to be spent by the City of Boston, and spent at home. But were not the Legislature the guardians of capital ? Was it not to consider carefully before enlarging the powers of an existing corporation ? Was not the State interested ? Boston was a part of the State, and the State was interested in every village and every villager. The guardianship of capital which the Legislature holds was shown by its establishment of Savings Banks ; it was a fundamental principle of civilized policy, and the State would not look on and see the City of Boston waste its capital.

This was spoken of as a small requisition ; it was said that "a cup of cold water" only was asked for. But it was for all of Long Pond, Sudbury River, and the Middlesex Canal. In one sweeping request, it asked for lake, river and stream. The city came there without defining the limit or the expenses of its proposed operations. It only named its termini ; Boston on the one hand, and Long Pond and Sudbury River on the other. There was no plan of the route,—no statement of what roads were to be crossed ; the Committee could not know even that churchyards were not to be disturbed. It was a bold and startling proposal, at variance from all other calls of the kind for legislative aid. If a road or street was to be laid out, it must have submitted clear and accurate plans. But here was not even a calculation of income to show whether the work would pay. He had called for the production of a detailed plan of the route, and nothing was produced but the sketch attached to the Commissioners' Report, published by the city. Was it not the duty of the city to have submitted accurate surveys and plans, with accurate calculations of cost and income ? Here was nothing but a request for a roving license to pass through a certain part of the State with an aqueduct, and nothing definite by which the good or evil of the plan could be judged.

The only proof of the public want that had been offered, was the popular vote. Nothing had been said of the three thousand tenants supplied by the Jamaica Pond aqueduct, and from the opening of this case no one would have known that there was now any aqueduct in Boston, and yet the Croton aqueduct only supplied nine thousand tenants out of three times as many inhabitants as Boston had.

The Legislature was now called upon to exercise the power of *eminent domain*. It was necessary that a great public exigency should be shown, and that then the Committee should strike the balance between that exigency and the evils which occur in satisfying it. He (Mr. Derby) did not understand that the exigency had been at all established, or that any sufficient evidence had been adduced to make out this part of the case ; but he should nevertheless analyse the matter somewhat farther, that the position of the question might be fully understood.

It had been said that the income would be pledged to meet the expense of the work. But those whom he represented did not believe that there would be any income, and therefore such a pledge would be no protection. Some caution was certainly necessary to protect the pecuniary interest of those concerned. To show that they were not sufficiently cared for by the proposed project, since the counsel for the petitioners had gone into no particulars, he should put into the case the report of the City Water Commissioners in 1844, in which the Long Pond project was developed. Upon this project he wished to make some general remarks, which he should attempt to support by proof.

He should maintain that the city would not require for a whole generation to come, so large a supply of water as that proposed to be introduced from Long Pond. That water could be introduced from nearer and better sources, and of superior quality, at little more than one-tenth of the expense that would attend the proposed project. That this might be done by the enterprise of a private corporation, which would take the risk, and yet give the city a right to assume the benefit of the work upon fair terms ; and in the charter of this corporation, conditions might be introduced for free hydrants, and the use of the water in case of fire. That the city was constantly changing its position, the inhabitants moving out into the suburbs, and street after street changing from dwelling houses to places of business. That modern arts and improvements dictated the use of pipes of iron instead of a conduit of brick or masonry. That the price of iron was decreasing, while that of earth work and mason work was advancing. That the expense of the annual repairs of an aqueduct of iron pipes would be far below that of one of masonry.

He would not trouble the Committee with the whole description of the proposed aqueduct, as it was to be found in the Commissioners' Report of 1844. It was to consist of an aqueduct of masonry, to bring the water from Long Pond to Corey's Hill. It was to be built of brick, with two breaks or gaps of iron pipe to cross vallies. This was the plan which was submitted to the citizens, and under which the city was acting. It was in the report of Nathan Hale, Patrick T. Jackson, and James F. Baldwin, and the plan accompanying that report was the only one which was presented to show the course of the proposed aqueduct. It was so small that it was nearly impossible to criticise it.

The action upon this matter had been most precipitate. The city had not the benefit of full experience upon this subject. It was well known that Railroads had generally cost triple their estimate. There had already been one aqueduct built in New York, and the city might have sent to New York for the Chief Engineer of that work, and got his estimate of the cost of this, with the benefit of his full experience. But they had neglected to do this. It was customary in preparing estimates for any public work to employ a person conversant with the business. But what had the city done? They had taken two Railroad Directors and a Railroad Engineer for Commissioners, and had relied upon their estimates; and there were such serious differences and errors to be found in comparing these with the cost of the work on the Croton aqueduct, that he felt bound to call the attention of the Committee to them.

There never was such a masonry aqueduct as this proposed constructed before, and the Commissioners' Report of 1837, (p. 29,) signed by two of the same Commissioners who now recommended this plan, acknowledged that they "cannot speak of it" (the brick structure,) "with the entire confidence we can speak of an iron pipe, because we are not aware that any work, precisely similar to either of them, has ever been constructed and proved experimentally to answer the end designed," which was enough to show that they were not properly informed, and that the action of the city was precipitate. Such a shell of brick work as this proposed, for such a purpose, resting on an embankment of from thirty to thirty-six feet high, was without precedent in ancient or modern times.

Mr. Derby then proceeded to describe, in some detail, the structure of the Croton aqueduct, and then to argue that the structure proposed by the Commissioners for the Long Pond aqueduct was not strong enough, and that their estimates were insufficient. He then went on to illustrate the precipitate action of the City of Boston, in this case, by comparing it with that of New York, with regard to the Croton aqueduct; showing that the latter was made under the superintendence of the State; that the original estimates of its cost proved insufficient; that the income had not come up to that which was expected; and that the annual expense for its repairs had exceeded the estimates. He then urged that if the income here were no greater in proportion to the number of inhabitants, than it was in New York, and the expenses were in the same ratio, the annual receipts would be only $34,000, the expenses $16,500, and that consequently the net income would be only $16,500, or the interest on about $275,000.

The number of persons who would take the water was much exaggerated. That of the Jamaica Pond aqueduct was not taken by one in three of the persons in Washington street, whose houses its pipes passed ; and he believed that a large portion of the inhabitants would not take the trouble of introducing this water into their houses, even if it were brought into the city free. The impurities in the water now used in the city were only a little lime and a little salt. Were these very injurious ? Could the human body live without salt ? and lime might be really beneficial. The chemists told us that the bones of the body were made up of phosphate of lime, and if we got a little with our water, it could not be very deleterious. He understood that no case of the disease of stone or gravel, which was that supposed to arise from these mineral substances in water, had originated here for a series of years.

Mr. Derby proceeded to examine the damages which would be caused by the proposed work, arguing that the estimates therefore were insufficient. The freight to and from the village of Saxonville was 8 millions of tons a year, all of which was founded on the water power derived from Long Pond and Sudbury River. Two factories had been built within the past year and were now in a highly flourishing condition. Forty buildings including a church and these factories had been erected within the same time. Would the $100,000 set down for land damages more than pay for this village ? It might pay Mr. Knight and the other holders of the water powers, but who was to pay the owners of the houses. Such consequential damage would not be compensated for by law, but ought not some compensation be made ? Only 10 years ago the Legislature inflicted a blow upon the town of Framingham by chartering the Worcester Railroad. It was now proposed to strike at its prosperity again and ought not the city to pay for the injury ? The city would not only take away the water power but destroy the property that depended upon it, and if this could not be restored by a jury it ought to be taken into consideration by the Legislature. Then there were the water powers at Billerica, Lowell, and Andover, and the interests of the Middlesex Canal to be provided for, and with all these he could not estimate the sum that would be required for water rights and land damages at less than $400,000.

[At this point of Mr. Derby's remarks the Committee adjourned to meet on Wednesday afternoon.]

FIFTH DAY. *Wednesday, February* 12, 1845.

At the opening of the meeting of the Committee Mr. Derby gave way to **MR. TRAIN**, of Framingham, who commenced an argument to show that the town of Framingham would be injured by the proposed aqueduct. But it having been proposed by the Counsel for the city that they should probably agree to any statement of facts put in by that gentleman, the Committee directed Mr. Train to reduce to writing that which he intended to prove, and it was agreed that this statement, after being submitted to the Counsel for the city, should be put into the case.

MR. DERBY then resumed his opening in behalf of the remonstrants from the City of Boston, by recapitulating his argument of Monday.

Mr. Derby then proceeded to examine in detail the structure of the proposed aqueduct and the estimates of its cost, arguing that the structure was insufficient for the purpose and the estimates far too low. He urged that the slope of the aqueduct was not sufficient, and that the structure was too weak to support the weight required, particularly on enbankments liable to sink or expand. As to the expense:—the N. Y. aqueduct had cost over $100,000 per mile for construction while this was estimated at only $27,500. Notwithstanding the flow of water would be less rapid in this than in the Croton, owing to the slope being less, the size of this was only about one-quarter of that, the area of the cross sections of the Croton being 42½ square feet, while that of the cross sections of the Boston plan was less than 12 square feet. The estimate for ventilators, culverts and waste-weirs was insufficient, and that for the cost of bricks ought to be trebled. That for laying, sand, and puddling made no allowance for the increased expense which would arise from the sinking of embankments and was on too low a basis. There was no allowance for the increased expense of excavation and embankment if the surface of the pond should prove to be lower than in 1837, and yet the aqueduct must be made to meet the pond or the pond would have to be dammed up so as to meet the aqueduct, not much improving the water by flowing over peat-meadows. The estimate for excavation and embankment was too low and yet there had been no allowance made for the extra cost of back-filling and road crossing, or for the incidental expenses of filling, coffer dams, and pumping out of water which would be required in the course of the work.

After examining in detail each of these points he gave the following as his estimate of the cost of the work in place of that given by the Commissioners :—

Water rights and land damages,	$400,000
Brick aqueduct 16 miles, (at $100,000 per mile, which was cheaper than the Croton was built,)	1,600,000

Excavation and embankment,	400,000	
Back filling,	100,000	
Staging, centering, pumping, foundations, &c.,	16,000	
Pipes and reservoirs west of Corey's Hill, as given by Commissioners,	81,000	
Expenses from Corey's Hill to Boston, also according to report,	382,000	
Distribution in the city, also according to report,	672,767	
made an aggregate of		$3,651,767
To which add ten per cent. for contingencies,		365,176
And for the accumulation of interest during the construction of the work, which was 20 per cent. in New York, and might be estimated at the same here,		803,200
and we should have as the aggregate of estimate,		$4,820,143

The subscribers for the water would of course not all take the water at once, and a very moderate period passing before income would be received, would raise the cost to five millions of dollars. To meet this there would be, if the calculations he had made from the New York receipts were correct, an income of but $16,000.

Mr. Derby then proceeded to argue that there were other sources of supply which would be cheaper, urging that a private corporation was the proper body to provide this supply, but that if it was done by the city, the Legislature ought to restrict it to some reasonably moderate provision for its wants, and not allow it to calculate for a time so far distant, that the accumulation of interest upon the cost would make the expense enormous. He went into an analysis—in some detail—of the facilities of supplying the city, and the expenses of the several supplies from Charles River, Spot Pond, and Mystic Pond. He estimated the cost of introducing the water from Spot Pond, as follows :—

Water rights, - - - - - - -	$60,000
Seven miles of iron pipe, at $28,000 per mile, -	196,000
Crossing Charles River, - - - - - -	50,000
Land Damages,	12,000
Cost of distribution in Boston, [according to the report of Mr. Treadwell in 1825, (p. 31) which estimated 23 miles of pipe at $262,065, with the deduction of 1-3 on account of the reduced price of iron] - - - - - -	174,712
Making a total of - - - - - -	$492,712

The expense of Engineering, &c. might increase this sum to $500,000. There was no necessity for allowing for time and loss of interest, because the pipes could be cast in four months, and it would only be necessary to tap the pond and lay them directly down and the work would be completed.

As to Charles River, he referred to Mr. Wilkins's report to show that the water might be brought thence to great advantage and at small expense. If the water was brought from these sources there would be a reasonable prospect of income. The $16,000 which he had already estimated increased by the saving of $12,000 which had been allowed for repairs of a brick aqueduct, would form an income of $28,000, and would be profitable on an investment of $500,000.

As to security to be afforded against fire, either Spot Pond or Charles River would be more advantageous sources than Long Pond, because a higher head would be obtained. The progress of art indicated the propriety of using iron instead of stone, and he was surprised that the Commissioners who had recommended iron a few years since, when its price was high, should now when it was so much reduced, recommend masonry in its place, as it were, going back to barbarous times.

The character of the streets of Boston was changing. Business buildings were increasing in many of them, while the population was decreasing and being drawn off into the suburbs. It would be in Brookline and Cambridge that the water would soon be wanted. If then this expense was entered upon, it would be equal to throwing away 4½ millions of dollars, which would increase taxes in the city 40 or 50 per cent. In the course of 20 years, this would amount to a loss by the city of 12 millions, for an expense for that which is unnecessary was a loss. It was a proper exercise of the power of the Legislature to prevent this waste—which would be felt through the blow it would strike at the general prosperity of Boston—and to preserve the application of the capital proposed to be invested, for the purposes to which it ought to be applied.

Mr. Derby here closed his opening remarks, and the Committee adjourned to meet on Thursday afternoon.

SIXTH DAY. *Thursday, February* 13, 1845.

Mr. Derby then commenced the examination of the witnesses for the remonstrants.

WARREN NIXON of Framingham. Is somewhat acquainted with Long Pond, has surveyed land in the vicinity of it, I drew the map which I hold in my hand ; a part of it I surveyed. There is woodland, I should think, on three-fourths of the distance about the pond. Some of it is decent sized wood, some of it small ; some of it considerably heavy.

Mr. Nixon then showed the Committee by a pencil mark upon the map, the basin which drained into Long Pond. There are 79 acres in the part of the pond which he surveyed, he supposes that there are 4 or 500 acres in the whole. There are two roads across the pond at different places, one is the Worcester turnpike, and the other at what was formerly called "the wading place." At these crossings the water is quite shallow. At the "wading place" the culvert is from 12 to 15 feet wide. It may be more but does not exactly know; cannot tell exactly the width of the pond at the wading place. It is perhaps twenty or thirty rods. The causeway extends over most of this distance.

Cross examined by Mr. Warren. Lives about 6 miles from the pond. Has had no particular reason for examining it. Mr. Knight employed him to set some marks around the meadows to show the extent to which the water would flow upon making an alteration of his dam—and afterwards he made some surveys in the neighborhood—can't tell the depth of the woodland about the pond. In some places it is very narrow, and in some it is much wider. The pond is in three divisions, and there is a current from the south to the north. Cannot tell what is the area within the pencil mark [showing the basin of the pond or the extent of country from which the water drains into Long Pond.] Cannot estimate it without going into a measurement and calculation. Attention has not been called to the subject till today.

Henry Richardson, examined by Mr. Derby. Resides in Framingham, is a farmer and has been employed by Mr. Knight to purchase land. There is a good deal of meadow flowed by waters of Long Pond when it rises. I cannot say how much, my attention never having been called to it till today. I should say for a guess there were one hundred acres. There is a quantity owned by the Framingham company, and another quantity which I have purchased for Mr. Knight. We have given from $75 to $125 per acre for it. One lot we bought for 60 dollars. There is one peat meadow, in which I believe there is about 20 acres. It has been a good deal dug for peat. The water stands in the peat holes.

On the Wayland side of the pond and down as far as to Natick, there is a good deal of wood on the borders of the pond—and so in the Framingham part. It does not run back so much as a quarter of mile, perhaps some places as much as 50 rods, in some only a few rods. Below the county road the margin is mostly meadow. I am not acquainted with the depth of the water. It is shoal in what is called the wading place, so far as I have observed.

We had damage to pay last spring for flowing over the road at that place and one of the bridges had to be raised. Mr. Knight wished me to examine what would be the consequence if he raised the dam at the outlet two feet higher. I told him that the damage would be great and he would probably flow quite up into Sherburne. If the dam were raised two feet, we thought it would flow much meadow, and two travelled roads. The wash from these roads would go into the pond. We have very few sheep in our neighborhood; but I don't know whether they wash them in the pond or not. I have not observed whether the quantity of water has increased or decreased in the pond since I have lived near it.

By Mr. *Hubbard*. I made no estimate of the amount of land that would be flowed by raising the dam two feet. I only examined far enough to decide that it was not for Mr. Knight's interest to raise it so. I should think if the dam were raised five feet it would flow as far up as the middle of the town of Natick.

By Committee. The land about the woodland is a light sandy pasture. The usual rise and fall I can hardly tell. I have seen it as much as two feet and a half above the bolt in the rock which is "water mark;" this was a bolt put in to mark the level up to which the water might be kept in the pond by Mr. Knight by consent of the meadow owners. I have never been over the pond in a boat to ascertain the depth.

[*Mr. Warren* stated that no proposal was made to raise the water higher than the present dam.

Mr. Fuller of counsel for the remonstrants urged that if the water was not raised above its present height it would have to run up hill to Corey's hill.]

Mr. Warren desired to ask one question of Mr. Richardson but he had left the house.

CHARLES W. CARTWRIGHT (called.) Is president of the Manufacturers' Insurance Co.

The lowest rate on first class risks of insurance in New York is 45 cents, in Boston 37½, being a difference of 33 per cent. in favor of Boston. In the grades below the difference is greater in favor of Boston. There is no deficiency of water in general in Boston to extinguish fires—sometimes there is in the outskirts. Salt water is as good as fresh for this purpose. An additional supply of water would not reduce risks much. If we had another supply, a head of 140 feet would be prefable to that of 120.

By *Mr. Bartlett*. I have lived here 26 years. For general purposes I believe it is generally considered that Boston is as well supplied as almost any city with water. I do not know about the supply of water at South Boston.

The premiums in N. Y. now are very much lower than they were at the time just after their great fire. The number of losses paid and the breaking up of many offices at that time temporarily raised the premiums.

The question being asked "Do you know of any exigency for bringing water from Long Pond?" Objection was made that this course of examination might be carried to an unlimited extent, and that the witness had expressed his opinion by signing a remonstrance.

The Chairman of the Committee suggested that this kind of evidence could add nothing to the testimony furnished by the remonstrances.

Mr. Fuller, urged that at least such questions might be asked in behalf of the South Boston remonstrants.

The Committee were willing that such questions should be asked of a few intelligent witnesses, but it must not be carried to an unreasonable extent.

Examination continued. Witness believed that some sections of the city might need more water. But he did not think that there was now an exigency—or that Long Pond was the best source.

Cross-examined by Mr. Warren. Had no other interest in this subject than other citizens have. Had read most everything printed on the subject. Had not read the memorial of Wards eleven and twelve; had made no particular inquiries about the city in this regard. Boston rates of insurance on furniture are 40 cents—don't know N. Y. rates—I compare our rates of Boston insurance with our own rates in New York. Ours there are the same as the N. Y. rates. We have an agent in N. Y.; Mr. Asa Bigelow. I do not mean to say that there is an ample supply of water against fire. That would be very strong language. I do not believe that a large additional supply would materially reduce insurance. Boston is better supplied in this regard than N. Y. was before the Croton. Cisterns for this purpose are built by the city constantly, and there is an annual appropriation for the purpose of extending them. I do not know the annual expense of the fire department. Should think it more than $50,000 per annum. I do not think it would materially decresae the expense of the fire department to introduce 300,000 gallons of water a day. I should think that it would decrease the cost of the fire department $25,000. The amount of property exposed to injury by fire in the city is about 100 millions. I think the plan now proposed to be a very bad one. If the best plan could be found it might be a tolerable one. I am not aware that I have said more here than I said in my remonstrance.

Direct examination resumed by Mr. Derby. A large part of the taxable property of the city is *land* not subject to injury by fire.

By *Fuller*. Notwithstanding the Croton rates of insurance have never got down so low in New York as they were before the great fire, the extreme rise of rates just after that was in part owing to the decrease in the number of offices.

CALEB EDDY (called.) Has been agent of the Middlesex Canal, and the Merrimac River Canal, for about twenty years.

The question being asked what was the price of brick suitable to an aqueduct—

Mr. *Pickering* inquired whether the Committee thought it necessary to go into an inquiry as to the expense of materials, &c.

Judge *Warren* urged that even if the Committee should be satisfied that the Commissioners of the city had under-estimated the work, it would not affect their inquiry. They were not to act as a Board of Engineers for the city. A great part of the opening of the counsel for remonstrants went upon the ground that the report of the Commissioners was binding in every detail of the estimates upon the city. If this course of examination was entered upon, the city would not follow it up ; and counsel wished to be understood that although they did not interpose a legal objection, this course of investigation was not entered upon with their consent.

Mr. *Derby*, said that this course of examination was intended to be short, and to show the delusion of the citizens of Boston in asking for this plan. He urged that the city was concluded by the report of the Commissioners, since that was the plan which had been supported, if any, by the popular vote.

In reply to question from Chairman, Mr. Derby said : We expect to show a very different state of facts from that reported by the Commissioners.

Mr. *Bartlett* followed on the same side. The burden lay upon those making an application like this, to show that an exigency existed, and to show the extent of that exigency, and this Government could not give a greater power than was needed. We then came to the question whether the scheme proposed was suitable for the exigency—on this question the errors and the fallacy of the plan were proper subjects for examination. The popular vote was not conclusive. He was tired of hearing it maintained that the minority in a municipal corporation, in such a case, were concluded by the action at the polls. The rights of the corporation were limited. When the majority went beyond those limits, the minority could come to the Legislature for protection.

Judge *Warren*, repeated the ground taken, and maintained that when the people of Boston had decided to enter upon a public work, they were the best judges of its expense and mode. To be sure the public exigency must be made out; but he asked the Committee if the remonstrants did not admit the exigency. They did not dare to deny that the want existed, and if the want existed, the exigency was as great, whatever might be the cost. [Mr. Bartlett asked leave to explain that he conceded that there was a want of water in parts of the city, and that he wished the Legislature only to exercise the power of eminent domain to the extent of the exigency.] Mr. *Warren* resumed. It was attempted to be proved that the city was under a delusion, and that only the six or seven hundred remonstrants were sane upon the subject. Why should the Committee presume that the city did not know what it was about. But the true view of the question was this: The law granting this power would undoubtedly be referred to the people for acceptance by its own force. These detailed inquiries would then be gone into in their proper place. The city did not fear these inquiries about the price of brick, &c. They were prepared, in the most conclusive manner, to sustain their estimates; but it was clear that in every step of this examination we were getting away from the true objects of legislative inquiry.

Mr. *Bartlett* urged that the minority had a right to be protected by the Legislature on the question of taxation.

[The Committee decided to hear a witness or two, with the intention of stopping this course of examination when they should see fit.]

Mr. *Eddy's* examination was continued, as to the structure, as to the expense, and as to the sufficiency of the supply. Mr. Bartlett said that he wished to show by this witness that the Commissioners had proceeded so carelessly in their examination and estimates, that the project was unworthy the attention of the Legislature.

[Mr. *Eddy* having been questioned as to other sources of supply of water,

Mr. *Pickering*, on behalf of the city, again objected to the course of the inquiry.

Mr. *Hubbard* urged that the city asked for two powers which it does not now have as a municipal corporation; the one, the right to take lands of individuals for this aqueduct, on giving remuneration in such manner as the Legislature might direct; and the second, the right to tax the citizens of Boston for this purpose. In this view he maintained that this examination was proper.

The Chairman said that the case appeared to stand thus: It was admitted, on all hands, that there was some want, at least, of water; the city asked for power to bring it from a particular source. It seemed to him, therefore, proper to go into evidence to a reasonable extent, to show that there were sources from which the water might be brought at less trouble and expense. It seemed to him that it would be sufficient for their purpose merely to show that there were such sources, without going, on this question of expediency, into details.]

Mr. *Eddy's* examination was resumed, and he went on to give his views of the expediency of bringing water from Spot Pond. According to his recollection of the survey and project of his son, for bringing water from that source, the expense was estimated at four or five hundred thousand dollars, exclusive of the distribution. The cost of iron pipe has decreased since then. He believes the supply from this source would be as great as could be sold for a fair price for twenty years to come. The reason for this belief is, that many citizens have constructed, recently, large and expensive cisterns. He himself had one which had cost three or four hundred dollars. Mystic Pond alone would furnish a full supply for the city, according to his observation, in the dryest time. There was a great deal more water poured from its outlet, every year, than there is from Long Pond. If the wants of future generations should require more than Spot Pond, this would be an abundant and desirable source. Believed the water of Spot Pond to be as good as any in the vicinity of the city. Its height is one hundred and forty-three feet over marsh level. [The question being asked whether he considered it the part of wisdom to make an outlay for such a purpose, for future generations, was objected to, and the Committee decided that it should not be asked.] Spot Pond would furnish an ample supply for the higher levels for all time.

In reply to questions from the *Committee*, Mr. Eddy stated the comparative heights of the different ponds named. Spot Pond was 140 feet, Mystic Pond —— feet, and Long Pond 123 feet above.

Cross-examined by Judge Warren. I don't know how many embankments will be needed by the Long Pond aqueduct. I have not measured the height. I have run my eye over the plan. I have not been on the ground. I have gone into no estimate as to the embankments required. Do not know how much stone work would be required. [The cross examination was continued for some time, to show—and Mr. Eddy said—that he had no further knowledge of the facts with regard to Spot Pond, and the introduction of water from it, than that which was in the various printed reports.]

The Committee then adjourned to the next afternoon, Friday, at 3½ P. M.

Seventh Day. *Friday, February* 14, 1845.

Mr. Josiah Adams, of Framingham, read the following statement of facts, as what the Framingham remonstrants had expected to prove, if their witnesses had been examined, and these facts, so far as they would have been evidence, were admitted as such by the counsel for the city :

“ In the case of the City Council of the City of Boston, Petitioners to the Legislature for a charter to take water from Long Pond and other ponds and streams in Framingham and other towns ;

“ The inhabitants of said Framingham, remonstrants against the granting of said petition, by their agents, state the following facts, which they expect to prove :

The population of said town, by the census of 1840, was		3,030
It is now believed to be at least		4,000
The population of Saxonville is believed to be		1,600
The taxed polls in Framingham were in 1840		689
“ “ “ “ “ 1844		876
The valuation of property in Framingham was in 1844,		$1,474,010
The taxable property in Saxonville is now valued at ⅓ part,		491,336
The amount taxed on real estate in Framingham in 1844, was	$5,861	
The amount taxed on personal estate in 1844, was	2,117	
The amount taxed on polls, in 1844 was	1,306	
The whole amount of taxes being		$9,284
The Highway tax is not included in the above.		
The taxable polls in Saxonville are now believed to be		360

“ The factories of the New England Worsted Company are in Saxonville on Sudbury river. They are of great value and are in a very prosperous condition. In the dry season they are much benefited by the right to take the water of Farm Pond. Over 400 operatives are now employed there. The amount paid them each month is over $7,000. Its manufactures of the last year amounted to $550,000.

“ Mr. Knight's carpet manufactories, (consisting of four large buildings and several others) are also in Saxonville, and the water power is derived from the outlet of Long Pond. They are all in a very prosperous condition. Two of them have been built during the last year, and the foundation is laid for another. More than 200 operatives are employed ; additional machinery is procured and 50 more men are wanted *with families* to supply the additional demand. The business done for the last year has amounted to $200,000. The amount paid the operatives per month is about $4000.

" Many of the operatives in both these establishments are the owners of houses either purchased or built by themselves, and several of them have paid but a part of their cost, and depend on the labor in the factories of themselves and their families to pay the remainder which is secured by mortgage. There are many other dwelling houses in Saxonville which depend for their value on the prosperity of the factories. There are three religious societies, two of which have houses of worship; there are five prosperous stores, doing a business of at least $90,000 annually.

" About equidistant between Saxonville and the Centre Village is a grist mill, on Sudbury river, with which is connected a saw mill and a plaster mill. This is also benefited by the water of Farm Pond. In the summer season this has often for a long time been the only grist mill in the town which is supplied with water; and there is no other within several miles.

" Within four miles of Long Pond are Learned's Pond, Farm Pond, Shakum Pond, Dug Pond, and Gleason's Pond, and Sudbury River. By a dam of 4 or 5 feet, the water of the river south of the village may be turned into Farm Pond, thence into Shakum Pond, and thence into Long Pond. The water of Learned's Pond may also be easily turned into Gleason's Pond, and thence into Long Pond. Such variations in the waters would much injure the owners of the adjacent lands. The shores of Long Pond are principally woodland, and it is believed that if the wood should be taken off the water would be diminished in the increased evaporation.

" If both, or either of the manufacturing establishments should cease, the injuries to the town of Framingham and its inhabitants would be incalculable. A valuable market for the farmers in the vicinity would be lost and the value of real estate much diminished. The wood used annually at both these establishments costs over $5,500 ; and the wood used by the inhabitants of Saxonville costs them as much as $3,500 annually. It is computed that the article of milk alone amounts to over $4,000 annually. Potatoes in very great quantities, find a ready market at 30 cents the bushel, and produce annually at least $2,400. Hay is a still more important article, as there are two livery stables, and its annual consumption cannot be less than $3,000. The vegetables and the various other productions of gardens and farms are sold in great quantities to an amount which cannot be computed with much certainty.

" The taxable property in Saxonville being $200,000, exexcluding the factories, the loss to the owners, for which no remedy is provided by law, would be as much as $100,000.

" The loss to the town in taxes annually, would amount to about $2,000, leaving out of the account the depression of property in the other parts of Framingham, which would be greater or less, in proportion to its proximity to the Saxonville market.

" The waters of Long Pond, though deep in some places, are very shallow in others. The Worcester turnpike crosses it at one such place, and a county road at another; which last was called the wading place before the road was made."

Mr. *Fuller* of counsel for the remonstrants, continued the evidence by putting in a statement as to the cost of the Haarlem river bridge, viz: that the cost of the whole of section 86 of the Croton Aqueduct, which includes that bridge, would be by the estimate of the report quoted $931,000. [Semi-annual Report of New York Water Commissioners, January 6, 1845.]

Mr. Fuller went on to read from p. 121 of same reports to show the necessity of larger reservoirs than those proposed by the Commissioners; from pp. 422 and 423, to show large amounts paid for land and water damages; from the previous report, July 1, 1844, p. 138, to show that the Croton works had required repairs; and from p. 139 to show the general necessity of repairs on public works; from pp. 140 et segg. to show the nature of expenses which arose upon such works after they were completed.

Mr. Fuller put into the case some specimens of water from Jamaica, Spot, and Long Ponds, and read a letter from Hinckley and Drury, of January 31, 1845, in answer to some inquiries of Mr. Derby with regard to the cost of steam engines to pump water, and of working them.

Also, a letter from Cyrus Alger & Co. to the same, February 5, 1845, with regard to the price of iron pipe.

Also, a vote of the City of Boston, November 25, 1844, ordering the printing of the Report of the Water Commissioners of 1844, and also that of 1837 for distribution.

Mr. NATHANIEL GODDARD of Boston was then sworn. Examined by Mr. Fuller. With the exception of seven years, has resided in Boston since 1783. Know very little about the water in South Boston, with the exception of a living spring in a hill, which formerly supplied a brewery with which he was connected. Some shipping was supplied from there then, although I believe the water boats now get their water from Chelsea. I never have heard that there was a want of water here for shipping. I am connected with Union wharf and Constitution wharf. I have dug a well on Union wharf, and with the aid of a bore and iron pipes we now have water there.

At Constitution wharf, we have a well which has an abundant supply and fifty families are supplied by it. It washes very well, much better than the water of a well opposite, which is much of the time hard, and cannot be used for washing. [In reply to questions, Mr. Goddard mentioned several wells in different parts of the city, where the deep natural springs—when the "surface water" could be kept out—furnishes good soft water. Had never heard of any want of water at the North End, when they dug a well. I now live in Pemberton Square. There is no want of water there.]

Cross-examined by Mr. Warren. I have never heard that there was any want of water for ships. They are mostly supplied from Chelsea. I don't know that they don't pay a little something for it. On Constitution Wharf, I locked the pump once for a few days, because I had no drain to carry off the waste water. Since I prepared that, there have been plenty of people there to get it.

I dug three wells in Summer street, to accommodate different parts of my establishment. I don't know exactly the expense of my well at Constitution Wharf. It must have been over $500.

Mr. Isaac Livermore, (sworn.) Knew the Bath House estate well. It is a very good well, and Mr. Lawrence, who has recently bought the estate, gave leave to the neighbors to lay pipes to it for their supplies. I availed myself of it, and many people come now daily to use my pump. I should think I have seen as many as twenty while I am there each day, which is, however, but for a short time.

Noah Brooks, (affirmed.) Examined by Mr. *Fuller.* Lives near the centre of South Boston, and as far as he knows, the whole of South Boston is generally well supplied with water. Thinks no foreign supply of water is needed there. Believes population of South Bosten to be about 8,000. Springs abound about the shores of South Boston, and several of the boats that supply shipping with water, get it from South Boston. There have been two men engaged in this business there, and there is one there now. I know of no want of water in South Boston.

Cross-examined by Mr. Warren. I don't know how many reservoirs for water, against fire, there are in South Boston. Should think there might be seven or eight.

Direct examination resumed. Have lived in South Boston twenty-seven years. I don't know of any persons there who would be likely to take foreign water introduced there for their family use. It might be taken for factories.

William Wright, sworn. Examined by Mr. *Fuller.* Has lived in South Boston, and now owns vacant lands there.

Always had the impression there was plenty of water there by digging. So far as I am concerned I would not give anything to have more water introduced there.

Jonathan Preston, sworn. Examined by Mr. *Fuller*. Lives in Boston; has been in both branches of the City Government of Boston, in the Council three or four years, and in the Board of Aldermen two years. Paving brick costs, on the average, from nine to ten dollars. Brick to carry water would be more costly, because some required for paving would not answer for a culvert. Brick for an aqueduct would be worth from ten to twelve dollars, delivered in Boston. Hydraulic cement is worth three dollars a cask. I have had some experience in building brick structures. An earth foundation is not so secure as a stone one, for brick work. We attempt, in laying a heavy structure, to get a secure foundation for it. Artificial embankments of earth have a tendency to settle in the course of years. I only know this as a general matter, not having had occasion to build embankments. I voted to instruct the Mayor to present the petition on which we are now acting. The reason I did so was, that I am in favor of water from some source, and voted according to my judgment, and not according to popular instruction. I thought that there ought to be farther examination of sources. I did not think that the people ought to be prevented from petitioning the Legislature.

I examined the Report of the Commissioners on this subject with as much attention as I had time to before acting on this subject—and I have examined it since. I and others thought there were other sources that ought to have been more fully examined and I think so still. I have my doubts whether the estimates of the Commissioners would cover the expense of the Long Pond project. I don't think the work they propose would be so perfect as the Croton works.

By Committee. I think there is a want of water in the city—but I don't think so large a quantity is needed as the Commissioners estimate, because I do not think that so large a number of persons will ever live within the lines of the city proper as they have estimated; the number of stores increasing in many wards and the number of dwelling houses decreasing.

By *Mr. Bartlett.* I think that the quantity of water which the report of the Commissioners estimates for *Spot Pond*, with the aqueduct now existing, would be sufficient for the supply of the city for many years.

By Committee. I should have been inclined to apply to the Legislature for leave to bring in water had there been no popular action. I should not have wished to confine the inquiry to one source.

Cross-examined by Mr. Warren. I should prefer that the city should bring in water from Long Pond than that its bringing in should be delayed four or five years, if I felt perfect confidence in the estimates.

LEMUEL SHATTUCK. Sworn and examined by counsel for remonstrants. Have lived in Boston 11 years—was in the City Council from 1836 to '42. My attention has been directed to the subject of bringing in water, and I have a series of reports both of Boston and New York on this subject, and I have made an examination of the population with view to its wants. I was one of the Committee employed to take the State census of the city in 1840, and I also have the United States census. I have prepared a paper containing the facts with regard to the population and its changes, with my conclusion on the subject. Mr. Shattuck then read from this document.*

With regard to the necessity of a supply of water he first went into an investigation of what districts are now supplied. He considered the supply from Jamaica Pond sufficient for the supply of the whole section of the city south of Essex and Boylston streets, supposing that the water it now furnishes to persons north of that line were transferred to the section south of it. Next he considered South Boston and East Boston as within the *supplied* section, the latter because the water from none of the foreign sources proposed would benefit them. He estimated the whole population of Boston in 1840 to be 85,000—correcting a supposed error in the United States census which states it at 93,382 by a comparison with the State census made the same year. If we deducted from this number 26,000 as the population of the supplied section (24,043 for the district south of Essex and Boylston streets and 1,957 for East Boston and the Islands,) we should then have 59,000 persons who lived here in 1840, among whom if any the necessity existed. These are distributed in 6179 dwellings according to the last State valuation when there were 8,902 dwelling-houses in the city, if the same proportion of inhabitants to dwellings exists in all sections of the city.

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*The facts and arguments of this document have since been embodied and published in a pamphlet under the title of "Letters from Lemuel Shattuck in answer to interrogatories of J. Preston in relation to the introduction of water into the City of Boston."

With regard to the probable increase of the want for water the witness made a calculation upon the number of rateable polls (as being an approximate guide to the number of inhabitants) in each section of the city. He submitted the following table:—

	In 1840.	In 1844.	Increase.	Per cent.
Polls in the whole city,	17,696	22,339	4,643	26
Polls in the 'Supplied Section,'	4,800	7,273	2,473	14
Polls in other sections,	12,896	15,066	2,170	12

It appeared from this statement, that the polls in the supplied section had increased 14 per cent.; 2 per cent. more than in all the rest of the city. Estimating the increase of the population to be 26 per cent., on 85,000, the same ratio as the increase of the polls, we should have an increase of 22,100, or 107,100, for the present population of the whole city; 14 twenty-sixths of this increase, being 11,900, was to be added to the 26,000 in the supplied sections, which would give them 37,900, and 12 twenty-sixths being 10,200 to the 59,000, which would give 69,200 to the rest of the city. He urged that there was no probability of an increase of the *population* of the city in the section north of Boylston and Essex streets, although the *business* would increase in a rapid ratio.

Mr. Shattuck then passed to the history of the Croton aqueduct, and read the following passage:

" The project of bringing the water of the Croton River into the City of New York was surveyed several times, by different boards of engineers; and, finally, after the most careful estimates of the expenses, it was submitted to the citizens, for their approval or disapproval, in April, 1835, under the positive assurance that the expense should not exceed $4,250,000 for the aqueduct, and $1,261,629 for distribution; and 'that the income which would accrue to the city, from very low charges for supplying the water, would overpay the interest on the cost of the work.' The vote was taken in April, 1835, and 17,330 voted 'yes,' and 5,963 'no.' The project was prosecuted, and water was introduced into the city in 1842, though the work is not yet entirely completed. The debt incurred on this account, May 1, 1841, was $7,949,377; May 10, 1842, $10,838,562. The public documents of the City of New York give the following account since then:

	Jan. 1, 1843.	*Jan.* 1, 1844.
Paid Water Commissioners on Contracts, &c.,	$7,900,790.24	$8,173,003.74
" Water pipes and laying,	1,804,149.53	2,087,251.87
" Interest to August 1, 1842,	1,577,459.43	1,577,459.43
" Specie to pay interest in 1837 and 1838,	2,831.18	2,831.18
" Water loan expenses,	6,840.81	8,290.13
" Preservation of works during riot,	3,146.56	3,146.56
" Discount on sale of stocks,	647,157.32	647,157.32
Total payments at those periods,	$11,942,375.07	$12,499,140.23

On the 10th of August, 1844, the water debt was as follows:

At 5 per cent.	$9,285,232	Annual Interest,	$464,261.60
At 7 per cent.	2,000,000	" "	140,000.00
At 6 per cent.	1,062,973	" "	63,778.38
At 4 per cent.	288,693	" "	11,547.72
Total debt,	$12,636,898	Annual Interest,	$679,587.70

"Prior to August, 1842, the interest on this debt was added to the principal, and constituted a part of the debt; since then, it has been paid by a tax on the people. For the three past years there has been raised, by tax, about $1,800,000 to pay interest, which, added to the $12,636,898, will make about $14,500,000, which the city has paid, or become liable for, on this account. And the work is not yet done."

"This aqueduct was estimated to produce a 'handsome income' on the expenditure. The following statement, for 1844, will show how far that estimate has been realized:

The gross income from the water rents for 1844, was		$102,600
From which deduct the annual cost of maintaining the aqueduct from the Croton River to the city, about	25,000	
Repairs of hydrants, stop-cocks, breaks in water-pipes, tools, &c., about	25,000	
Salaries of the 'Croton Aqueduct Board,' consisting of twenty-six individuals, exclusive of laborers,	20,919	
		70,919
Net income of the water rents for 1844,		$31,681

"This is equal to six per cent. on a capital of $528,016, or about *one quarter of one per cent.* on the investment; not so very 'handsome income' as some may desire on capital. There were in November, 8,644 water takers, which gives a net income of $3.66 each. 6,175 of these water takers are for private dwellings, varying from $5 to $27 gross each. Of the miscellaneous takers there are 76 steamboats, averaging $74.04 each, and 118 steam engines, averaging $50.50 each, both producing 10,586; but a small portion of which could be obtained in Boston."

Mr. Shattuck then put in the following table, exhibiting the aggregate valuation of property in Boston; real, personal, and total; the polls, the tax assessed, and the number of cents in each $100 valuation, at the different periods specified:

Year.	Real Estate.	Pers'l Estate	Total Valuat'n	Polls.	Tax.	On $100
1800	$ 3,550,500	$ 4,097,350	$ 7,647,850	4,538	$ 73,428,75	
1810	10,077,200	8,372,300	18,449,500	7,754	144,486,72	39
1820	21,687,060	16,602,200	38,289,200	7,810	165,228,30	40
1825	30,992,000	21,450,600	54,442,600	11,660	201,039,10	35
1830	36,960,000	22,626,000	59,586,000	13,096	260,967,30	40½
1835	47,552,800	31,749,800	79,302,600	16,188	408,899,61	48½
1836	53,370,000	34,895,000	88,245,000	16,719	444,656,65	47½
1837	56,311,600	32,272,200	89,583,800	17,182	473,692,00	50
1838	57,372,400	33,859,200	90,231,600	15,615	465,557,34	49
1839	58,577,800	32,248,600	91,826,400	16,561	543,660,66	56½
1840	60,424,200	34,157,400	94,581,600	17,696	546,742,80	55
1841	61,963,000	36,043,600	98,006,600	18,915	616,412,10	60
1842	65,499,900	41,223,800	105,723,700	19,636	637,779,09	57
1843	67,673,400	42,372,600	110,056,000	20,063	712,379,70	62
1844	72,048,000	46,402,300	118,450,300	22,339	744,210,30	69

From this table it appeared that the whole tax of the city in 1830, was 40½ cents on $100 of the valuation; in 1844, it was 60 cents. This was a proportional increase of 50 per cent. The taxes, in 1830, were $4.25 to each inhabitant; in 1844, they were $7.00 nearly, showing about the same relative increase on the population as on the valuation.

The direct examination of Mr. Shattuck was continued by Mr. *Bartlett.*

The Reports of the Commissioners, with the exception of Mr. Baldwin's, and that of all the Mayors, have always been in favor of Spot Pond. My impressions have always been that to bring water from Long Pond would be ruinous to the city. I have been satisfied that the excess of the annual expenses of that project over the receipts, would be $200,000. I think Spot Pond would be sufficient for more than twenty years, from the view I have given that the increase of population in the unsupplied portion of the city must be small.

Cross-examined by Mr. Pickering. I consider the inhabitants who are *supplied*, to be

The population of wards 10, 11, and 12,	21,762 inhabitants.
One-third of ward 9, (between Essex and Beach streets,)	2,281 "
Part of ward 4, (East Boston and Islands,)	1,957 "
Total supplied district,	26,000 inhabitants.

I learn from Mr. Dexter that the Aqueduct Company supply 3,500 tenants, 3,000 of whom are supplied perfectly, and 500 imperfectly. 2,000 of those perfectly supplied, live South of Essex and Boylston streets, and the other 1,000 North. I estimate that if the water now used by these 1,000, and the 500 imperfectly supplied, were transferred to the South of the line indicated, this aqueduct might be considered sufficient to supply that South portion for a long time.

Allen Hinckley, examined for remonstrants by Mr. *Hubbard.* Has care of Boston Aqueduct Company's works. The map before the Committee contained the routes of the logs of that company. There is not a full supply of water in the extreme north part, beyond Stillman street. They get water pretty well on the new made land by the Lowell rail road. We have about 3,500 customers—3,000 well supplied and 500 not fully supplied.

Cross-examined by Mr. Warren. We do not limit our subscribers closely if they can get the water—we require great care that the water shall not be wasted—we charge according to the size of the family—5 persons $10 and so up to $15. We have'nt raised the prices since I have known about them. We have raised on the Worcester rail road. I presume we have doubled. I don't know that the company have told that rail road that they cannot give it all the water it wants. Around Winter street and West street they get water pretty well. In Franklin place they get it pretty well. I know that recently it failed for a fortnight. There are always complaints. The bills read that there will be a deduction when the water fails for over three weeks. We laid a pipe to supply the Tremont House, but the water after a time failed to run through it.

Direct resumed by Mr. Derby. There are some houses which are fully supplied all the time.

Cross-examination resumed. A part of the time last summer all our customers were supplied. Complaints come from people in Tremont street, between West and Boylston streets, but generally from the defects of their own pipes. The supply at the North End is not large, it was injudicious to extend the enterprise so far. Last year the supply was cut off in some streets for a fortnight by the gates being shut down. I have known the water in the pond so low that it would not run into the pipes, and I have known it some nine feet above. The Jamaica pond is fed principally by springs. There is only one stream running into it, but it does not run into it all the time.

The Committee then adjourned to Monday, P. M.

EIGHTH DAY. *Monday, February* 17, 1845.

The Committee met according to adjournment, and the remonstrants evidence was continued.

JOSEPH BALCH, sworn. I am President of the Merchants' Insurance Company. That company owns the Dalton estate, so called, in Spring lane in this city. We have built upon it within some years. When we built there, the old well existing there troubled us much, because the water continued to rise there after we filled it up. It cost the company $1000 to stop it down. They still draw it there from a faucet. We offered it to the city if they would lay pipes to carry it where it was wanted. I presume it now runs off in the city sewer. I do not know the exact apparatus, but do not doubt that there is enough water running to waste there to supply all the inhabitants of Broad street, and all the reservoirs below the spring.

I have been connected with the Merchants' Insurance Company for 24 years. I think there are means enough of supplying water to extinguish fires around the margin of the city, in the tide water which could be brought into reservoirs and kept there by flood gates. At the fire in Doane street, the loss was wholly occasioned by want of water. I don't think the water from the roofs of stores, if reservoirs for it should be built, would be a safe reliance against fires, because we have long periods without rain. I don't know the facts about the wells in the higher parts of the city.

Mr. *Bartlett* here put in a copy of the vote under which the petition under consideration was presented; with a certificate of the City Clerk, as follows:

"At a meeting of the Board of Aldermen of the City of Boston, December 23, 1844. On passing the order instructing the Mayor to make immediate application to the Legislature for the grants of such power to the city as may be necessary to carry the resolve into effect. The following voted in the affirmative: viz. the Mayor, Aldermen Wetmore, Crane, Longley, Parker and Rogers—6.

"Aldermen Lowe, Wilkinson and Robinson voted in the negative. The above complete the whole Board of Mayor and Aldermen.

"Attest, S. F. McCleary, *City Clerk.*"

Larra Crane, sworn. Is an Alderman of the City of Boston—voted against the introduction of water at the polls, but thought it my duty as an Alderman to vote in favor of the City Council's petitioning for the water, because I thought the popular vote was such that the Council ought not to refuse so to do. I think there is a want of water in some portions of the city. My view of the question is that the water ought to be brought from some source where the supply would be better and the head higher than at Long Pond.

Cross-examined by Mr. Warren. I should be glad to see the water brought in, but not by the City Government. My own consideration of the subject has led me to repent of my vote in the Board of Aldermen. I have learnt since how the vote was got from the people. I moved a reconsideration in the Aldermen, but I have withdrawn it. I live in South Boston and have a good well on my premises.

Direct resumed. I ascertained after the vote was taken that the people did not vote understandingly on the question, and I heard that the votes with "nay" on them were abstracted from two of the wards before the voting began.

Cross-examination resumed. I can't say that any individual has told me that he did not understand the question when he voted in the affirmative. I can't say that the general impression which I received that the question was not understood, has not come from those who voted in the negative. I have'nt changed my opinion about the propriety of bringing in the water by the city—but I thought myself bound to vote for the petition, on account of the strength of the popular vote.

Direct resumed. One reason why I changed my mind with regard to the effect of the popular vote, was that the Commissioners' Report of 1837 was not circulated before the election.

Cross resumed. I do not know whether the printer had time to get it ready for distribution. I was not a party to prevent this report going to the people—I do not know that any of my associates in the City Government were parties to such a project. I do not mean to impute such motives to any of them. I am not satisfied with the estimates of the Commissioners. They have not made up the amount of damages with sufficient particularity.

Benjamin P. Richardson, sworn. [Being asked about his vote in the Council on this subject, the question was objected to, and after an opinion expressed by the Committee was waived.] The messenger came to me for a copy of the report of 1837 to print from, a few days before the vote. I have been a member of the City Government for six years. From the action of the citizens, I judge that there is not a general want of water. If there had been, I think it would have been called for in a different way. [Mr. R. went on to give his recollection of the history of the matter since 1838, in the City Councils.]

Cross-examined by Mr. Warren. I examined the report of the Commissioners of 1844, as a member of the City Government. I thought that they had not had time to make sufficient examination on some points I considered important. I don't actually know that there is not a general want of water. From the indications I have alluded to, I suppose that there is not a general want.

Direct resumed. One of the indications to which I allude is that three anti-water candidates were elected as Aldermen.

By the Committee. The question of water or no water was not made a question at issue of the first Aldermen election. There was a "water ticket" at the second election, but I believe it did not get 100 votes.

H. B. Rogers, sworn. Is an Alderman of the City of Boston. Had not examined the subject of water sufficiently to have a decided opinion upon the various sources.

Jonathan Chapman, sworn. Was mayor of the city in the years 1840, 41, and '42. Was member of the Council from 1837 to 1840—was member of the Water Committee in 1837—was during this time in favor of the Spot Pond project.

[The Counsel for remonstrants were proceeding to inquire into Mr. Chapman's opinions of the various projects, when Mr. *Warren*, on the part of the city, objected on the ground that testimony as to opinions on one or the other side might be brought to an indefinite extent. The Committee decided that investigations with regard to fact might be inquired into.]

Mr. *Chapman continued.* He had seen Long Pond, and read the reports of 1837 and 1844. He had on this examination preferred the Spot Pond to the Long Pond project.

In answer to questions *by the Committee.* I had no doubt from my examination of Long Pond in 1838 that the water was good. I believe that there was no doubt that the water from all the sources was good enough. Spot Pond was considered the purer, but the question did not turn upon that. I considered the want exaggerated. There is undoubtedly a want, but in many cases temporary, such as the individual can get along with—and a permanent supply would not be needed to supply it. It was believed in 1838 that much greater certainty existed with regard to the estimates concerning Spot Pond than those concerning other projects. I had no doubt that either would furnish a sufficient supply for the city for all time, and partly because the increase of the city, from the nature of that increase, would not require a commensurate increase in the supply of water. Spot Pond is more elevated than Long Pond, and although Mystic Pond is not high enough it was thought it might be brought in as an additional supply to furnish the lower level of the city.

Cross-examined by Mr. Warren. The expense of bringing a larger supply than is needed is one of my objections to Long Pond. I have made no estimate of what would be the reduced expense of bringing in a smaller amount. I think the tide does flow into Mystic Pond. Part of the project was to dam the water out. I presume such a dam would have the same effect as at Long Pond—It would however depend upon the level of the country about. I have not seen Spot Pond since 1838. I have no farther ground of opinion as to the facts than the Committee have. There never was a question made but that the water of Long Pond was perfectly good.

My impression with regard to the cost of the city reservoirs is, that the annual appropriation is $1000, and is intended to build two reservoirs. I cannot say that it is not $2000, but it is intended to build two reservoirs. They are built according to a report from the Chief Engineer which state, what reservoirs are needed in the order of their importance. The annual cost of the fire department is from $50 to 60,000.

William Foster, (sworn.) Was examined as to the effect upon the irrigation of a country by cutting down forests, and testified to the drying up of certain rivers in Spain known to have been rivers at the time of the Roman invasion of that country, when the country was strictly wooded, and are now dry and have been since the time of Ferdinand and Isabella, the wood about them having now been cut off. He also gave some further facts and opinions of the same sort. He had no doubt that the quantity of water in ponds depended upon the wood upon the sides of the banks which surround them.

Cross-examined by Warren. Thinks that the lower the level of the pond the more abundant will be the supply. I know nothing about Spot Pond or Long Pond.

Robert H. Eddy. (Examined by *Bartlett.*) Is a Civil Engineer. I made a report on this subject to the city in 1836—That concluded with a recommendation to take Spot and Mystic Ponds for the supply of the city. Spot Pond first and then Mystic when more water should be needed. The cost was stated in the report. I think it would be less now from the reduction in the cost of iron pipes and of steam engines. I am inclined to think the saving on the then estimated cost would be considerable. I endeavored to make my examination with care, and am inclined to think that Spot Pond would be sufficient for the supply of the city for many years. I do not mean to say that any material advance has been made in the structure of engines for pumping water for 20 years. Many conjectures have however been made certain in that time. I have not read the Commissioners' Report of 1844 very particularly. I did not perceive any recommendation of a stone structure to support the brick aqueduct. I should not think the structure recommended sufficient. I cannot answer whether a descent of three inches in a mile is sufficient. There are formula to calculate this, and all disturbing elements are to be taken into consideration. I have not examined Long Pond particularly, and I do not know much of the water rights and privileges dependent upon it. I have no doubt that Spot Pond would be sufficient for the supply of the city for many years. I cannot say with regard to the adequacy of Mystic Pond for the time when more should be needed, for I cannot say how large the city will become, or the exact quantity of water that the Mystic would supply. At the time of my report I thought that the two ponds would be all sufficient. I had an analysis of the Mystic water, made by Dr. Jackson. It was very good water. I believe that at very high tide the sea water flows into Mystic Pond. I found nothing to lead me to suppose that the water was much affected by the salt water. The amount of flowage to arise from a dam to shut out the sea water, is exhibited in my report.

By Mr. *Hubbard.* It is found now that the Cornwall engines will perform more with a certain amount of coal than was supposed at the time the Commissioners of '37 made their estimate. My estimates were higher than theirs.

One engine is stated to have raised by 112 lbs. of coal 1 foot,	108,109,102 lbs.
Another engine,	112,000,000 "
" "	122,000,000 "

[*Wickstead on the Cornish Engines*, *London*, 1841.]

It struck me that the Commissioners' estimate was insufficient. One ground for this opinion is, that a reservoir containing a supply for a single day only, was an unsafe resource.

The Committee then adjourned until the next day, (Tuesday,) at 3¼ P. M.

NINTH DAY. *Tuesday*, *February* 18, 1845.

The Committee met according to adjournment, but adjourned without further action, to the next afternoon.

TENTH DAY. *Wednesday*, *February* 19, 1845.

The remonstrants evidence was continued.

JONATHAN ROBINSON. Resides in Malden, about two and a half miles from the outlet of Spot Pond. I occupy three-quarters of the water power from it in an undivided right. The other undivided fourth part is owned by another individual. My business is the iron and nail business. I have made a calculation of the amount of water in the pond by using my water wheel as a measure. The water wheel is 22 feet in diameter; it turns 9 times in a minute; the length of its buckets is 12 feet; the depth of apron or rim of wheel is one foot.

This gives 792 cubic feet of water for each bucket every revolution, which, multiplied by 9, for the number of revolutions per minute, by 60 for the minutes in an hour, and by 10 for the working hours per day, makes

	4,276,800	feet per day of 10 hours.
Multiplying by	7½	gallons to cubic foot,
We have	32,076,000	gallons per day.
Deduct ⅛,	4,009,500	for wood of buckets.
	28,066,500	gallons every day of 10 hours.

My acquaintance with the pond commenced two years ago in October, and I have had the management of the gate since then. We did not draw much water in the first fall. But during the first winter we drew off nearly all the water to within a foot and a half of the sill. Early in March we shut down the gate, and it remained down until some days after the 17th of June. But on the 16th of May the pond was full, and the water began to run over the gate. There is a small leakage, about as much as would run through a two inch auger hole under a foot head. In this time the water, therefore, rose five feet.

In the summer of 1843, we were running our mills night and day—both wheels, the one above spoken of, and another of about half its capacity. We drew the pond down quicker than it was ever drawn down before. We run thus, till about the 4th of July, when all parties finding that we were draining it off too fast, we reduced the rate. Seven-eighths of the power we used during this time, was from Spot Pond. We were able to run one large wheel half the time during the summer of 1843.

The average area of the pond I assume at 220 acres, (the lowest being 180, and the highest 280 acres,) and I consider that if this is so, the pond, when once filled up to the mark, seven feet above the bottom of the flume, would furnish 1,800,000 gallons per day through the year.

I have never seen the day when there did not some water run from the pond. The lowest I saw it last summer, there was about half an inch on the sill. That lasted about eight days. A moderate rain then raised it six inches, and it so remained, notwithstanding the gate was opened till more rains filled it higher. I have no doubt that the pond would fill twice in the year, if not obstructed. This I judge from the pond having filled, about March, 1843, five feet in a month. Last March (1844) we shut the gate again, and by Fast Day it had filled up to within eighteen inches. This season we shut the gate about Thanksgiving time, the water then being about six inches over the bottom flume, and we had occasion to use the water two weeks since, when it had risen to four feet six inches.

The water is used to drink by our people, and during six months in the year it is preferred to any well water. I have been on all parts of the pond. The shores are shoal until the water has been drawn off six or seven feet, they then become more steep. The bottom is generally gravelly. There are but a few acres of swamp or peat meadow about it. The pond can be tapped ten feet below the present bottom of the flume. I believe the greatest depth of the pond to be forty feet, when the water is seven feet high in the flume. I believe when the pond has been drawn down this additional ten feet, the area would be about one hundred acres. Two hundred rods from the present outlet of the pond is a convenient place for making a new dam, which would enlarge the area of the pond about sixty acres. [Mr. Robinson then exhibited on a map the area of the pond, and the character of the land about it, and summed up his estimate by saying that he had no doubt that the pond would fill up twice a year, so as to furnish 3,600,000 gallons a day.]

I procured my water privilege from the owners of the pond by purchase.

Cross-examined by Mr. Warren. I now hold my water rights as tenant at will of the Traders' and American Banks. Bringing the water into Boston would not destroy my works. We get from a third to a half of our water from Long Pond and other sources. All the sources together are not sufficient for our purposes. Within a short time I have put in steam power, which we can use economically. I doubt whether it would be an injury to me to have my water power taken away. I think the pond would fill twice a year,—in the spring and fall. It never did so fill, and I don't think it ever would fill, if the water was drawn off as I drew it.

In answer to a question *by the Committee*, Mr. R. explained that the reason for his doubling the estimate of 1,800,000 gallons a day, as the contents of the pond through the year, was, that he believed that the pond would fill twice in that time.

Benjamin Adams, (called.) Resides in Boston; was present at the Faneuil Hall meeting. Thought at the first meeting—on calculation—that there were about two hundred people, more or less. I was at all the meetings but one. There were less after the first meeting until about the 22d of October, when there was a larger meeting. I should think over three, perhaps four hundred. Towards the end of November there was a good deal of feeling about the notification of the City Government, which was dated December 27, for the votes of citizens on this question. It dissatisfied the Committee of Twelve, and at the last meeting, they were directed to apply to the Mayor and Aldermen for a change in the questions to be put to the city. It looked to me like taking the business out of the hands of the City Government, where it belonged, and putting it into the hands of the Committee.

I think there is plenty of water in the city. There are several springs on the high lands, on this hill, about the State House. [Mr. Adams, in reply to questions, went into some particulars as to water in different parts of the city.]

Cross-examined by Mr. Warren. I live now in Pemberton Square; I am well supplied. I think there is a want of water in some parts of the city. I think there is a limited necessity,—not a very pressing necessity. I think there is no necessity for introducing water if people would dig wells, and the city would do what it ought. I have always been of this opinion. I have never thought the city should bring it in. I should be willing to have a private corporation bring it in, and have the city take a quarter or half the interest in it. I should prefer to have them dig the wells I have spoken of. I have been somewhat active in remonstrating against this petition. When I observed the Faneuil Hall meetings, I thought it was time for the people to take care of their own interests. We do employ counsel here. I mean to say that I contribute to this opposition. I have been a witness in opposing these petitions before.

I believe the largest of the meetings at Faneuil Hall, was on Nov. 26. I should think there were not more than four hundred persons there at any time. There could not, in my judgment, have been twelve or fourteen hundred people there. Mr. Robert Ripley, who votes in my ward, has told me that he didn't understand the propositions on which he voted on the subject. Several others have told me that they didn't think that the people understood the propositions.

I did petition the City Government last summer, to prevent the too free use of the public well in State street, below the old State House. I did not urge that this had been done because it had injured my well, but because, among other reasons, I thought it might do so.

Jonathan Robinson, *(recalled.)* Desired to explain that his calculation was founded on calling the depth of the pond 8 feet. It had since proved that they usually only went to the depth of 7 feet. The calculation must therefore be reduced $\frac{1}{8}$.

Samuel T. Armstrong, *(called.)* Was Chairman of the Committee which investigated this matter in 1839. Have been Mayor of this city—have read the Commissioners' Report of 1844. While I was Mayor the subject of water received my personal attentention and I had a survey and reports made. I never have thought that an entire supply of water for the whole city was necessary. I came to the opinion that Spot Pond in 1836 was ample for the then wants of the city. I have seen nothing since to alter my view of the extent of the wants of the city. I own real estate in Washington street—and in the west part of the town, in Beacon street. I have found no want of water on any of these estates.

By Committee. I have had no personal acquaintance with

Long Pond—from reading the report I judged as to the general project of bringing water therefrom that it would be unwise to adopt it and I voted against it.

Cross-examined by Warren. I entertain as confidently as I did in 1836 the opinion that Spot Pond is now sufficient for the supply of the city. In 1836 I made a personal and laborious investigation of the necessity, and of the capacity of that pond.

By *Mr. Brooks*, (of the Citizens' Committee.) I have no estate where the well water answers all the purposes of the tenants. I suppose every house has a cistern for the rain water or aqueduct. Do not know the cost of wells. Never dug a well or had one cleaned out. Don't know the cost of a cistern. Can't tell whether a full supply of water to every part of the house would make it let more readily. I am in no want of tenants.

John P. Thorndike, (called.) Is a mason, have erected a few buildings within the two last years—between 20 and 30—principally near Essex street—(on Edingburgh near Beach street.) Should not be able to answer what would be the price of brick suitable for an aqueduct—for I do not know what kind would be suitable. I suppose that it would need what we call face brick—or pressed brick. Common brick would seem to me wholly insufficient. I think the suitable bricks would come high. From a quarter to a third of a kiln only would answer. The kind I speak of would cost about $12. It would be necessary to burn the bricks for the express purpose.

I have not recently looked at the estimates of the Commissioners of '44. I haven't examined the project of having an 8 inch thick aqueduct enough to make an opinion. I thought that the gentleman hadn't looked into the matter exactly as I had done. I now hardly have an opinion of the plan. My impression was that the plan and estimate was unsafe. I never saw a building of any kind where there was not some settling, and I should think there would be different degrees of settling by such work as it passed over grounds of different character. My impression would be that such an aqueduct ought to be laid on piles all the way. The dry dock was built on piles. The transportation of the brick from Boston to the line of aqueduct would be an expensive item in its cost.

Cross-examined by Warren. Does not know particularly the size or construction of the city reservoirs in Boston.

James Page, (*by Derby.*) Has been a mason and builder in Boston for 40 years. Thinks the statement with regard to bricks by the last witness a very correct one. Should not think that the proposed aqueduct built with an 8 inch wall resting only on earth would be safe. We frequently have to dig some depth to get to earth which we consider solid enough to lay a foundation of a building upon. When this is not done piles are generally driven. I have been a brick and stone mason here 44 years.

By Hubbard. Piles have been used both on new made land and old land.

Cross-examined by Warren. I have never seen an experiment tried of an aqueduct like that recommended by the Commissioners.

Mr. Hubbard at this stage put in the following certificate from the City Clerk:—

"I hereby certify, that it appears by the records of the Mayor and Aldermen, that the vote on the water question in Ward 1, on the 9th of December last was as follows:—

First proposition,	Yeas	586	Nays	2
" "	"	585	"	2
" "	"	2	"	518
" "	"	2	"	562

"I hereby certify, that the whole number of votes for Mayor in the same ward, on the same day was 859, and that the whole number of votes for Mayor in all the wards of the city, on the same day was 10,818.

(Signed) "S. F. McCLEARY, *City Clerk.*"

Robert Ripley, (called.) I am one of the inspectors of of ward 1. [Mr. Derby was then proceeding to ask questions concerning an error in the return of the vote upon which this certificate was founded, when the evidence was objected to; but the counsel for the city agreed to admit that there was an error in the return by which 145 votes "nay" on the 1st and 2d propositions were omitted from the return from that ward.]

Cross-examined. I never told Mr. Adams that I voted ignorantly on this subject, I never told anybody that I voted one way or the other upon it. I may have said that I did not understand it at first.

By the Committee. I did not vote either way upon the question. I have never told any body before whether I voted or not. I told Mr. Adams that I thought the voters didn't understand the propositions.

I have the votes by which I discover the error in the return from my ward, from the constable of the ward who has kept them since the election.

Mr. Derby put in the following statement from Mr. R. H. Eddy:—

"Boston, February 25, 1845.

"Sir:—In estimating the cost of various systems of works for supplying the City of Boston with water, the progressive increase in the number of tenants, or water takers, through a period of many successive years from the commencement of the distribution of the water, seems to have been either very much overrated, overlooked, or misunderstood by those who have given the subject their attention. The examples of Philadelphia and New York admonish us that some regard should be had to what will be the *probable yearly increase* in the consumption of the water, after the works shall have been completed. New York, with a population three times or more greater than that of Boston, has, thus far, (it being nearly three years since the distribution of the Croton was commenced,) been able to sell water to about 9,000 takers, or at the rate of 3,000 per annum.

"At the expiration of the year 1819, the City of Philadelphia supplied 3,805 tenants, at a charge of $21,993.50. In 1822, 4,758, do. at a charge of $25,485.30. In 1826, the yearly income amounted to $30,326.75. The supply of the districts then commenced, and at the expiration of the year 1827, the water rents in the city amounted to $32,521.50, and in the districts to $3,182. In 1831, the average quantity of water supplied per day to the city and districts, amounted to 2,000,000 gallons; the water rents charged in the city being $43,682.25, and in the districts to $26,721.50. In 1835, there were in the city 10,059, and in the districts 5,645 tenants who paid, besides 3,000 who did not pay, or were supplied by free hydrants. These received an average supply of 3,497,648 gallons per day.

The following Table will serve to exhibit the yearly increase in tenants, water-rents, and quantity supplied from December 31, 1819, *to December* 31, 1843.

	No. of water takers in city, who pay.	No. of water takers in districts who pay.	Tenants who do not pay.	Amount paid by city tenants.	Amount paid by district tenants.	Quantity of water supplied to city and district.	Whole No. of water takers of all kinds.	Population of city and districts.
1819	3,805			$21,998 50		Gallons.		
1820				23,016.50	none			119,325
1821				24,584.50	"			
1822	4,758			25,485.30	"			
1823				26,191.05	"			
1824				27,292.55				
1825				29,160.50				
1826				30,326.75				
1827				32,521.50	$ 3,182.00			
1828				35,791.50	10,378.25			
1829				37,881.50	18,883.29			
1830				40,915.00	22,678.75			167,836
1831				43,682.25	26,721.50	2,000,000		
1832								
1833								
1834			2,500			3,400,000	16,895	
1835	10,059	5,645	3,000			3,497,648	18,704	
1836	10,632	6,446	3,000	57,080.50	49,351.87	3,122,664	19,678	
1837						3,456,383	20,462	200,000
1838						3,850,647	21,947	
1839						3,978,357	22,636	
1840						4,034,638	23,482	
1841	12,749	8,779	3,300	66,752.50	74,587.00	4,445,630	24,828	212,000
1842	13,136	9,378	3,300	63,886,25	79,514.00	4,297,480	25,816	
1843	13,439	9,810	3,300	73,393.00	80,215.75	4,422,400	26,849	

From the above it will be seen that Philadelphia, starting at the end of 1819, with 3,805 water takers, was *twelve* years before she obtained a number sufficient to consume 2,000,000 of gallons per day. That it required the succeeding *ten* years to acquire the number sufficient to consume 4,445,630 gallons per day. At the expiration of this time, the population of the city and districts was 212,000. The average *yearly increase* of water takers for the last ten years has been, say 1036, and for the first twelve years, say 657.

The fair inference from the data above given would seem to be, that with the population of Boston, as it is at present, (viz: 100,000,) the rate per annum of her increase for ten years after the distribution of water is commenced, would not amount to more than 1,000 tenants, or water takers; so that before 2,100,000 gallons would be likely to be consumed, from *ten to twelve years* would elapse. Consequently, in 1857, when the population will have reached about 141,000, and according to the estimates of the present Water Commissioners, will consume 4,000,000 gallons per day, but about *one half* that quantity will in all probability be the amount actually necessary. *Twenty* or more years afterwards would probably elapse before a quantity approximating towards 7,000,000 of gallons would be demanded by the population.

If we suppose the present population of the city to be 100,000, the following table will exhibit the increase at the periods therein given, as well as the quantity of water per day required, (according to the estimates of the present Commissioners,) to supply the inhabitants at such times; the ratio of increase being 33⅓ per cent. each ten years:

Year.	Population.	Gallons per day.
1845	100,000	2,850,000
1847	105,922	3,018,777
1852	122,317	3,486,034
1857	141,229	4,025,026
1867	188,305	5,336,692
1877	251,073	7,155,680

The facts in regard to the consumption of water in Philadelphia, as herein before adduced, do not seem to warrant us in the conclusion that at the expiration of the aforesaid periods, Boston will consume the quantities as above estimated, according to the rate 28½ gallons per individual.

As we have above shown, that in all probability *ten* or *twelve* years must elapse before our city will afford water takers sufficient to consume 2,100,000 gallons per day, (the amount which the Water Commissioners of 1837, estimated Spot Pond to furnish,) let us now proceed to ascertain what the city, by the adoption of Spot Pond, in preference to Long Pond, will have saved when it shall become necessary to resort to Mystic Pond for a further supply.

It is a notorious fact, that since the Commissioners of 1837 had the subject under consideration, iron has fallen in price at least one cent, and lead two and a half cents per pound. The estimates of the Commissioners were based on three and a half cents for iron, and six and a half cents for lead per pound. The most respectable iron founders are now ready to contract to furnish pipes at two and a half cents, and lead can be had in any quantity at four cents per pound. In iron pipes of twenty-two inches diameter, there would therefore be a saving of $2.20 per foot since 1837, or, what was estimated then to cost $9.02, can now be had for $6.82. As the distribution need not be taken into account, we have only to compare the cost of each kind of work, from the source from whence water is derived, to a supposed reservoir at Beacon Hill.

Cost of aqueduct from Spot Pond to Beacon Hill, through Walnut Tree Hill, and thence through Cambridge and Roxbury to Beacon Hill, according to Report of Commissioners of 1837; $2.20 being deducted on each foot of main pipe:

Main pipe, 22 in. diameter from Spot Pond to reservoir on Walnut Tree Hill, 16,789 feet, at $6.82,	$114,500.98
Rock cutting, near Pond,	1,007.00
Dam &c. at Pond,	1,200.00
Stone Bridge over Medford River,	5,000.00
Reservoir on Walnut Tree Hill,	13,000.00
Main pipe from Walnut Tree Hill to Beacon Hill, 22 in. diam. 39,707 ft. at $6.82,	270,801.74
Crossing Charles River,	14,000.00
Arches, etc. at the Middlesex Dam Sluices,	8,493.00
Culverts,	1,000.00
Cost of Spot Pond, and land on Walnut Tree Hill, etc.	80,000.00
Contingencies, 10 per cent.	50,900.27
	$559,902.99

The present Water Commissioners, Messrs. Jackson, Hale and Baldwin, estimate the cost of the brick aqueduct from

Long Pond to Beacon Hill, to be	$1,253,174.67
And 10 per cent. for contingencies,	125,317.46
	$1,378,492.13

Therefore, if from $1,378,492,13 (the cost of Long Pond aqueduct) we subtract $559,902,99 (the cost of one from Spot Pond,) there remains $818,589,14. In about eleven years or by the time it would be necessary to resort to Mystic Pond or some other source for water, the sum of $818,589,14—at compound interest will have doubled, or become $1,637,178,28, or *more than enough by* $258,686,15, *to build the whole works from Long Pond.*

By taking a more direct route for the pipe from Walnut Tree Hill Reservoir, or laying it through Charlestown, and crossing Charles River at or near the Charles River Bridge, upwards of $100,000 would be saved in the expense of introducing the waters of Spot Pond, which could be effected for about $450,000; thereby saving to the city in eleven or twelve years the enormous sum of $1,856,984,26; or $478,492,13 more than the estimate of the present Commissioners to build the aqueduct from Long Pond.

We will next examine the cost of steam works to supply 2,500,000 gallons per day, the quantity which the city may require at the expiration of another ten years or say in 1867. Her population would then be 188,305. That of Philadelphia is now about 230,000 and it consumes about 4,600,000 gallons per day. Therefore, it will be perceived that we allow Boston in 1867 with a population 42,000 less than that of Philadelphia *now* to consume the same amount of water. Although a spirit of liberality governs us in making such an allowance, we do not concede that Boston will actually consume so much.

Estimate of cost of Steam Works at Mystic Pond capable of supplying 2,500,000 gallons per day.

Dam at Pond,	$2,000,00
Canal, Gates and Strainer,	2,000,00
Main pipe 18 inch drain from Pond to Reservoir on Walnut Tree Hill—8,250 feet, say,	50,000,00
Main pipe from Reservoir to Beacon Hill,	270,801,74
Two Steam Engines and pumps each capable of delivering 2,500,000 gallons per day,	70,000,00
Buildings for do.,	20,000,00

Water Rights,	20,000,00
Contingencies 10 per cent.,	43,480,17
	$478,281,91

For the ten years the population would average in its consumption 1,375,000 gallons of water per day. At the rate of duty of an engine assumed by the Commissioners of 1837 (which is too low as subsequent experiments have proved, a ratio of 90,000,000 raised one foot by one bushel of coal having been effected by the engine of the East London Water Company—working through a year) viz: 60,000,000 pounds raised one foot by a bushel of coal. 1,375,000 gallons will require 27,65 bushels of coal per day, or 284 chaldrons per year, to raise the water 100 feet; the engine being supposed to be working against the pressure of a column of water 150 feet in height.

Coal, 284 chaldrons at $7,00	$1,988,00
Superintendent,	1,000,00
Engineers and Firemen,	2,738,00
Wear, tear, &c., Insurance,	3,000,00
	$8,726,00

Capital at 6 per cent. to produce $8,726,00 per year,	$145,433,33
Add cost of Steam Works,	478,281,91
	$623,715,24

Deducting $623,715,24 from $1,637,178,28, (the amount before proved to have been saved by the city by adopting the Spot Pond project in preference to that of Long Pond,) and we have $1,013,463,04; which, before further additions to the steam works would be requsite, would amount to about *two millions* of dollars.

We might carry the calculation farther and thus exhibit at the expiration of the next decennial period a saving of over $3,000,000, but we do not deem it necessary.

If, therefore, as many good judges have asserted, the proposed aqueduct from Long Pond cannot be constructed for the sum as estimated by the present Commissioners, but would cost nearer double their estimates, what an *enormous* loss must accrue to our city by the adoption of such a project in preference to the one recommended by the Commissioners of 1837.

The cost of iron pipes and steam engines can be arrived at with great certainty; whereas, *structures of masonry* for the conveyance of water, have generally, when completed, cost *three* times their original estimates.

The daily working of the Cornwall Engines and those of the East London Water Works Company affords sure and certain data upon which to base our calculations of the cost of Steam Works for elevating water. It needs no great stretch of philosophicalr easoning to demonstrate that what can be done in England by the Steam Engine, so far as the raising of water is concerned, can be effected in Massachusetts.

Aqueducts of masonry are continually requiring expensive repairs; whereas, conduits of iron are permanent, and comparitively speaking indestructible. Improvements in steam engines are constantly being made by which their consumption of fuel is lessened and their cost diminished. Iron pipes from year to year are becoming cheaper. Water flows through them uncontaminated; whereas, in an aqueduct of masonry it is subject to the absorption of lime, particularly if the common American hydraulic lime is employed in its construction. There is, therefore, every reason for preferring an iron aqueduct to one of stone or brick laid in cement.

The above statements of cost of the various kinds of water works, are based principally on the Reports of the Commissioners of 1837 and 1844. So far as those taken from the report of 1837 exhibit the cost of iron pipes, lead and coal, they have been reduced to the present market prices of such articles. I will, however, by no means concede them to be the lowest prices at which such can be contracted for in large amounts, nor will I concede a duty of 60,000,000 pounds raised one foot by the consumption of one bushel of coal (94 lbs.) to be the maximum average duty of an engine, for the engine of the London Water Works Company, at Old Ford—has, *throughout the year*, performed an average duty of 90,000,000 lbs. raised one foot by 94 lbs. of coal.

I believe an engine can be constructed whose daily performance will average 100,000,000 lbs. raised one foot by 94 lbs of coal. Neither do I wish to be understood as believing the route of conduits from Spot and Mystic Ponds—as recommended by the Commissioners of 1837, to be that which good judgment would decide to be the best. On the contrary, I think a far better and cheaper route can be selected, one, which, when its cost is compared with that of the Long Pond project, will be much more favorable, as regards a saving of expenditure, than the one recommended by the Commissioners of 1837.

My object has been, not to "split hairs," but to exhibit a comparison of the Long Pond project in its *best*, with that of Spot and Mystic Ponds in its *worst* light, and in conclusion I cannot but think that were our city to embark in the enterprise of introducing water from Long Pond, an immense debt must be entailed upon ourselves and posterity from which there appears to be no prospect of relief, through any future income to be derived from the sale of the water.

"Yours respectfully, "R. H. EDDY."

"WM. J. HUBBARD, ESQ."

The Committee after reading this document adjourned to meet on Thursday afternoon.

ELEVENTH SESSION, *Thursday, February 20th*, 1845.

Mr. Bartlett, (for the remonstrants.) Read the remonstrance of certain inhabitants of Lowell against the petition of the city, signed by A. L. Brooks, and 190 others—and made a brief argument to show its connection with the general question—taking the ground that the injury to water rights which would be effected by taking water for the city from Long Pond, had not been sufficiently estimated by the Committee, and that the injuries to existing rights which such a course would produce which would not be remunerated by legal damages ought to be especially guarded against by the Legislature.

Mr. Bartlett added that he wished to show the value of the water power investments, dependent upon the waters of the Concord River. There were the Whipple Powder Mills

Valued at	$80,000
Massic Falls Mills,	40,000
Fall on East side, near the mouth of Concord River, owned by Middlesex Co. and others,	100,000
Making	$220,000

He stated that there was a population then of between 5 and 600 people dependent upon these works.

O. M. Whipple and Thomas Hopkinson testified in detail, pointing to a plan of Lowell and its vicinity, to ten general facts in this statement, stating that if the water power were so reduced as to stop the works for two or three months in the year, the works would be abandoned, or conducted solely by steam power.

MR. CALEB EDDY, *(called.)* Cannot tell how large a portion of the supply of Concord River is from Long Pond.

JOHN A. KNOWLES, *of Lowell, (called.)* Supposed the value of the works at "Belvidere" to be about $100,000. The population dependant upon these works is from 500 to 1000. Cannot tell the value of Mr. Whipple's property. Have heard it estimated from $50 to $100,000. Don't know what it is taxed at. Wm. Richmond has some property at the Massic mills, valued at about $25,000.

Cross-examined by Mr. Warren. I do not know that bringing the water from Long Pond would have any effect upon these mills.

Mr. *Bartlett* now proposed to put in some testimony to show how the petitions for this object were got up. He asked Mr. Henry Williams of Boston, who was present, if the petition of Walter Channing and others, were in his hand writing, and Mr. Williams not being put upon the stand or sworn, said it was. In the absence of other witnesses, however, he first introduced

Enoch Baldwin—who had had some knowledge of Neponset river. Supposed it would produce a sufficient supply of water for the City of Boston—as much as Charles river in a dry time—supposed it to be good water—knew it as agent of the mills there. The distance from the city is from five to six miles. Is president of the Shoe and Leather Dealers' Bank.

Examined by the Committee. There are a few hills between here and the Neponset, and then there is a general descent to the town.

Cross-examined by Mr. Warren. There are a great many manufacturing establishments on the river. I have made now no calculations as to the amount of the water.

Direct resumed. The lowest dam on the Neponset is at tide water, the water there being used only at low water, and there are mills all the way up—the whole water-power of the stream is used.

Perez Gill. *By Mr. Bartlett.* I did not sign a petition to the city to bring in water from Long Pond.

By Mr. Derby. I do not recollect whether I signed a petition for the use of Faneuil Hall for meetings concerning this project. I voted for the Long Pond project. I am not in favor of it now.

Alvah Crocker. Have given but very little attention to the introduction of water into this city.

The elevation of Magog Pond will probably not vary much from 200 feet. It is from 4 to 500 acres in size. It is estimated by people in the vicinity at about 700 acres. It lies in Acton, a portion of it in Middleton, about 23 miles from the city. The water is very clear and cold ; its shores are rocky and sandy ; the whole country in its vicinity is of that character ; the soil hard. During the dryest portion of the year people are in the habit of going to the mill there to get their grain ground. Mr. Weatherbee of the Fitchburg rail road, is able to state more accurately than I as to these facts. The pond may be raised ten feet without great expense. There are three other ponds, Long, Fort and Grass ponds, in its immediate vicinity. Long Pond contains about 100 acres, Fort pond about as much. There are no expensive establishments upon any of the outlets. The discharge of Magog, Long and Fort ponds enter into Concord river a little above Concord. Stony Brook's elevation is 118 to 120 feet. There is a considerable fall from Sandy pond to Stony brook. This is in Weston. It is not over 11 miles from the city. From 11 to 14 miles, according to the part of the brook whence you take the water. There is a large mill there, which is run very constantly in the summer. There are several smaller mills above. The value of the establishments is not great. The volume of water is enough to drive six or seven hundred cotton spindles at a head of 15 feet. The basin is larger than Long pond I should think.

I have seen Sandy pond only once. The other ponds have very pure water. A place for a reservoir might, I should think, be found in West Cambridge, and I saw a good basin on Prospect hill in Waltham.

I have been connected somewhat with mills. I should feel no safety in carrying water without a very permanent foundation. In the construction of a dam at Crockersville, the abutment being 100 feet long we sought for a ledge and thought that we must find it for a foundation. If you should take a single brick for the width of your dam, there would be great danger of finding a single defective brick, which would let out the water. The thickness of the culverts under the Fitchburg rail road is from 2½ to 5 feet.

I am perfectly well acquainted with the Nashua river. I live on its banks. The wood on its banks has been very materially diminished of late years; below Fitchburg 50 per cent. in last 20 years. This has materially diminished water in the river. I should think it had reduced the stream very nearly an eighth at those points. For instance at Leominster. We have been at great expense in establishing reservoirs.

I have not a doubt but that more water and more abundant may be found northwest of the city than elsewhere. At least a quarter more water is discharged from the ponds near Acton than from Long pond. Sandy pond in Groton, a very pure pond. Then there are the ponds in Westford and Littleton, Fort Pond in Littleton and Spectacle pond. Northwest of the city there is a constant succession of ponds—and the soil there is qualified to render the water pure.

Cross-examined by Mr. Warren. Magog Pond empties into Concord river or Elzabet river rather, but it is the same thing. I should not be willing to give an opinion as to the quantity of water discharged by it. Could not say how many millions of gallons a day it is. Do not like to form an opinion so hastily. I should rather not give an opinion without looking. A very constant but not very large stream goes from the pond into Concord river. The river is not so dependant on the pond as it would be if it were raised 10 feet. A considerable supply might be raised in that way. The country is very clear about there. The waters from Sandy pond go to Stony brook and thence to Charles river. There are no ponds so near the city that I know of, that I think so favorably of.

Samuel M. Felton, called. Am an engineer. Know Stony brook, it throws out a considerable discharge—in the spring very abundant. It is quite a rapid stream. There are several falls on it. There are two falls occupied by mills—I never knew it dry. I should judge from the map, though I do not know that that is a reliable indication, that the basin of Stony brook is larger than that of Long pond. In building culverts we always try to get a hard foundation, when we cannot we take great precautions to make solid foundations. These culverts are sometimes carried away. We have no walls less than three feet thick for our culverts. We prepare the foundation by throwing in stones or driving piles.

Cross-examined by Mr. Warren. There are four mills on Stony brook. There is a machine shop and a cotton factory on it, and a saw mill and an old mill. The elevation at Jenkins's factory is 140 or 150 feet. There is not much power there. At this season there would be an abundant power there. Sibley & Coolidge's factory is about a mile from Charles river. The brook has several branches.

Direct resumed by Mr. Derby. I have no doubt a good deal of surplus water might be saved by dams. Sandy pond is very pure water. The soil is sandy and gravelly. The discharge of Stony brook at this season, I should judge to be 30 or 40 cubic feet per second, to speak within bounds.

By Mr. Williams. I have only measured it by my eye.

Col. Thomas C. Amory, (sworn.) I am President of one of the insurance offices; was head of the fire department some years ago. The annual expenses of the fire department would not be diminished that I know of by the introduction of water. I think it would operate variously on the rates of fire insurance. On stores which have not valuable finishing, the abundance of water would diminish the rates, or at any rate keep them as they are. But where there are valuable goods the abundance of water might increase the risk. Do not know that it would increase it, but think it would not diminish it. The water loss on goods is frequently much greater than the loss by fire. The cold in winter might freeze the hydrants and so prevent them being as useful as reservoirs. I was at the head of the fire department about six years.

Cross-examined by Mr. Warren. I left the department in 1835. Think the greater flow of water would not be beneficial to a stock of goods, though it might be to stores. I generally have been to all the fires in the city of late years. I was at the Dover street fire. It was a very peculiar one, such as you seldom see anywhere. A great part of the time there was an abundance of water, but during a part of it there was not.

Mr. WHIPPLE was recalled and stated that he owned the Magog pond in Acton.

The Committee then adjourned to meet next day.

On the TWELFTH DAY, *Friday, February* 21, the Committee met, but for want of a quorum, adjourned to Tuesday, the 25th.

THIRTEENTH SESSION. *Tuesday, February* 25, 1845.

CALEB EDDY, recalled. Nearly every summer it has been necessary to stop the mills on the Concord river, that the canal might take all the water of the river.

Cross-examined by Mr. Fletcher. The Middlesex Canal owns the mills at Billerica, which are now rented out. Faulkner and others own two rights there, subject to a condition that when the water is reduced to a certain level the gates shall be shut. Our mills do not run throughout the whole season.

Mr. WHIPPLE recalled. I bought Magog pond with a view to have an additional supply of water if Long pond should be taken by the city. We now use it for a reservoir and additional supply in the dry season. The supply is small, and we have felt in doubt whether we could increase the supply by raising the dam; whether the water would rise.

Mr. *B. R. Curtis*, in behalf of the Middlesex Canal, said that he was instructed not to oppose the petition of the city, provided the act asked for should contain provisions for suitable compensation to the canal proprietors; and to make the position of the canal clear, and with some hope of effecting a compromise, he had some days since submitted to the counsel for the city, the following propositions :—

"Messrs. John Pickering, Richard Fletcher, Charles H. Warren, Counsel for City, &c.

"Gentlemen—In the matter of the petition of the City of

Boston, now in hearing before a Committee of the Legislature, it is my intention in behalf of the Proprietors of the Middlesex Canal, to ask the Committee to insert in the bill, if any is reported, provisions to the effect following :—

" 1st—To authorize the proprietors of the canal to discontinue the canal and make sale of their property.

" 2d—That the city shall pay to the proprietors of the canal such a sum for the right of diverting the waters of Concord river now vested in the canal, as Commissioners shall find to be its just value.

" 3d—That the water shall be excluded from the canal.

" 4th—That if any claim for damages shall be made by any mill owner on this city, by reason of the diversion of the waters of Long Pond, &c. the jury, &c. shall take into the account the benefit received by such mill owner by reason of the exclusion of the water from the canal.

" These I believe embrace the substance of the provisions which are desired. As I shall not have the opportunity to reply to you, and no opening has been made on your part respecting these provisions, it would seem fit that you should state to me what points, if any, you shall make in opposition to the request of the proprietors of the canal."

Mr. Curtis had received no answer to these propositions, and he therefore felt compelled to urge them upon the Committee. He made no complaint of having received no answer, as he understood that the condition of the City Government had prevented it from instructing counsel upon the point of the required concession.

He urged that it was impossible to assess in any gross sum, the damages which the canal would sustain by reason of the diversion of the water asked for. In the first place, it was left uncertain what amount of water the city would draw. The seven millions of gallons a day, estimated by the Committee, was only the ultimate want of the city, and it was mere matter of guess how much would be wanted immediately, and how soon this whole amount would be wanted. Then there were certain seasons of the year when this amount could be taken without injury to the canal, while there were others at which it would be highly detrimental. The amount of business of the canal at the time when the water was diverted from it, would also come into the calculation of damages.

The canal was also entitled to the benefit which might accrue to it from improvements in canal navigation, which may hereafter be made. This was another element which would make it impossible for any tribunal to calculate the indirect damages to the canal from a diversion of its water. Unless it were intended to fix a gross sum, which the canal should be compelled to take, it would be necessary to have an annual assessment of damages which would be requiring an annual lawsuit.

Mr. Curtis premised that the position of the two parties were such, with regard to this subject, that the city could not complain of the request of the canal.

First. Because the city asked for a new power. In no instance had our Legislature granted power to divert water, except in the case where the State provided for the supply of its own hospital at Worcester.* He believed that while power to take land and other property had been so often granted, that this distinction in the case of water was not a casual one, but arose from the large indirect damages that would result from the diversion of streams of water. He thought that the Commonwealth would be slow to change this policy. It would be impossible to see to what extent the policy so changed might reach.

Secondly. This property,—so he considered the right to divert the water,—was already held for public uses. The canal now held these waters as a highway for the transportation of passengers and merchandise. If the Legislature should give the right to divert these waters to another corporation, it would be a transfer of the right to take this property from one public use to another public use. The right of the Legislature to do this had been doubted. The better opinion was doubtless now that it had that right, but it was the universal opinion that an extreme case of public exigency must be made out. And to this point Mr. C. cited the opinion (23 Pickering's Reports, 393) in the case of the Roxbury Water Company *vs.* Boston and Worcester Railroad.

Mr. Curtis urged that it was the duty of the Legislature to use extreme caution to prevent the waste of private property by powers granted to a corporation. In this case such waste would be prevented by the adoption of the propositions of the canal. It was in evidence that at the season when the canal was most busy it required all the water; but if an arrangement could be made, by which the mills could be supported by closing the canal, it was the duty of the Legislature to require this. If it were true that the amount of filtration and evaporation of a canal is 50 cubic feet per mile per day—this on twenty-seven miles would be seven or eight million gallons per day, which, with the amount used for lockage &c., would more than compensate the mill-owners for the water taken by the city, if the canal should be closed, so that this waste could not accrue. To compensate the canal proprietors for shutting out the water from the canal, would therefore be a simple and satisfactory way of indemnifying the mill-owners, and saving the city any farther litigation upon the subject.

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*Mr. Curtis subsequently corrected this statement by referring to the incorporation of the Hydraulic Company in 1836.

Mr. Curtis now urged that as he had not, in reply to his propositions received from the counsel to the city, the points of fact or law which they should raise in objection to these propositions, it was to be taken that the city had no objection.

[Mr. Warren, in behalf of the city, remarked that he was sorry if there had been any misunderstanding with regard to these propositions; that he considered the demand for a specification of objections as at least an unusual one. That the city would contend that the injury to the canal would not be essential, and that whatever it might be, it could be supplied from other sources; that he did not consider that the counsel for the canal was entitled to have been informed of this heretofore, but that if it operated as a surprise upon him, all would be desirous that he should have time to prepare to meet it either by evidence or argument.

Mr. Pickering added an explanation that he supposed that the request for a reply, was only for the objections which would be made to the proposition of the proprietors, and not for those to the grounds on which they rested; and that he had informed the counsel that from the imperfect organization of the City Government at that time, he had not been able to enter upon any agreement as to what would or would not be consented to as a part of the charter. After he had stated that he was thus unable to answer the proposition, he had considered that matters stood as if no proposition had been made.

Mr. Curtis said, that reserving the right to introduce evidence hereafter, should it be found necessary, he would briefly conclude what he had to say.]

Mr. Curtis resumed. The city came here to do an act which would undoubtedly affect the canal property to some extent. They ought to have been prepared to show how they would meet this injury. He should therefore leave his argument upon the legal objections until after the city had further developed its case. He should then only state the grounds upon which the proprietors of the canal stood.

The whole cost of the canal, reckoning interest until 1819, when dividends were first made, was	$1,112,797
The cost of each share was, at that time,	1,455
The dividends last year were on each share,	10

The shares were very generally held by the original proprietors and their descendants. The canal lost about one-third of its receipts by the Lowell Railroad, and had been still further affected by the Nashua Railroad.

There was also a dividend of $60 last year, which was the proceeds of property sold, and did not accrue from the earnings of the canal, as such.

Mr. Curtis said he had a few words to say on behalf of the owners of property in East Boston. Their remonstrance set forth that while it was not proposed to carry the water to East Boston, their property would be taxed to pay a proportion of the expense, and that injustice would thus be done. Mr. Curtis urged that all property in East Boston would be forever deprived of any benefit from this work directly, and he could see but two ways in which they could be indirectly benefited One of these was, that they are interested in the public property of the city, whose security from fire, it was said, would be increased; and the other, that the expense of the fire department was expected to be reduced. These benefits would not be sufficient to warrant the inhabitants of East Boston in incurring their share of the large expense proposed. But farther, if the fire department were reduced, it would only be as efficient as now, where the supply of water existed, and on the other side of the channel, insurance would rise rather than fall. There were now 4,500 inhabitants at East Boston. It was estimated that there were 1,200 dwelling houses, that 300 buildings were erected last year, and that 150 were now erecting. The valuation of real estate, 1844, was $1,317,000. Several extensive factories and mills, which would much increase the business and population of East Boston, were now building. From these statements it would be apparent that this was a case of much magnitude, and it would be no more reasonable to tax East Boston, than it would to tax Chelsea, for the same purpose, if this petition came from the County of Suffolk. It might be as well urged that this project was not one forming a part of the duty of the city, as that it would not be a part of the duty of the county, the burden of which would of course have to be shared by Chelsea.

It had been urged that this objection was like that of a person without children objecting to pay a school tax. But that was an accidental, and not a permanent and local objection, and the whole community derived the benefit of the school tax from the greater civilization and good order of the community. It had also been suggested that if East Boston was dissatisfied it might be set off. But the inhabitants of East Boston had a right to remain citizens of Boston, and to tell them they might go, was adding an insult to their injury. They might not be told that if they chose to live where the water could not come, they must take the burden of their situation ; for they had a right to protect themselves against those burdens when they were extraordinary. He thought this a case in which the Legislature should interfere to prevent injustice, because it was of such magnitude, and of increasing magnitude.

If the interest on the cost of this work was really to be paid by the water rents, there could be no harm in absolving East Boston from its share of the expense. Those whom Mr. Curtis represented, had not much confidence that this would be the case.

The New York Legislature limited the "water district," on the part of the city, to be taxed for this purpose, to those parts in which the pipes were laid down. (New York act of 1843, ch. 241.) So in Massachusetts, (act of 1844, ch. —,) providing for village fire departments, this principle had been adopted, that those who have the benefit shall bear the burden of an enterprise.

Mr. Curtis here rested his case for the present, saying that after the city should have put in its evidence with regard to the diversion of water from the Middlesex Canal, he should offer to put in evidence to establish his views of that subject, and hoped that the Committee would enable him to introduce it.

The Committee then adjourned to meet the next day at 9 A. M.

FOURTEENTH SESSION. *Wednesday*, *February 26th*, 1845.

Judge Warren stated that he should proceed to introduce the evidence for the petitioners without any further introductory remarks, as its application would be easily made after the extended explanations already made.

First, Mr. W. read the petition of *Benjamin Adams* and others in 1842 for the closing of the pump in State street, on account of its drawing the water from the wells in Pemberton square; and the order upon it reported by Larra Crane, another witness, August 1st, 1842.

He next read a certificate signed by a number of the leading masons and builders of the city expressing confidence in the estimate of the Commissioners for the cost of the brick work of the aqueduct, and their willingness to contract for it at the estimated price.

He then called a witness, somewhat out of the order he had intended, because that gentleman wished to leave town.

MARTIN BRIMMER, (*sworn.*) I was Mayor of the city for the last two years—was a member of the City Government in 1838—as Alderman. My attention has been called to this subject of introducing water, as an Alderman in 1838, as a member of the House of Representatives in 1837, '38, and '39.

Last autumn I was invited by a party of gentlemen to go to Spot Pond for the purpose of examining it. It was in September. A number of gentlemen went. We were taken in a boat and carried to the place whence it was understood the water would be drawn if taken from the pond and also to other parts of the pond. The water was beautiful as is the pond itself. I inquired where the outlet of the pond was, and asked Mr. Odiorne who was with us for how long a season the water did not run out of the pond. He said he believed that summer it had been about six weeks ; and referred me to a man who lived in the house then, who he said would know better. This man said that there had been between six or seven weeks when no water run out of the pond. We then went down to examine the outlet. It is a sluice way in an embankment of from seven to eight feet high. I measured the sluice way and found that it was two feet by one. It was so constructed that it could be closed by a gate. The water was then running out about five inches above the sill of the sluice way.

The eastern and south-eastern parts of the pond are deep. The western part is shallow. It was thought not to be deep enough to float the boat we were in. My opinion is that as a source of supply for Boston, Spot Pond is totally inadequate, and not to be depended upon at all seasons of the year. My opinion was, from this examination, that it is supplied by rain and snow water and not by springs. I do not know that any water flows into it except from one small source on the northern side. I suppose it not to be supplied by springs because its water runs so low in the Summer time.

As to the necessity of a further supply of water in the city ;—I suppose that around the three hills there is a good supply of water for those who reside there, such as it is. It is in general however, hard water. The wells are required to be very deep. On the easterly side of Beacon Hill there is constant complaint of the failure of wells from the effect of new ones which have been dug. There is a constant war going on under ground and many wells have to be deepened from time to time. Last summer we were obliged to deepen two wells in the cellar of the court house. These three hills are an exception to the general necessity in the city. On the lower level water is very scarce. On the Mill Pond, South Cove and the Neck there is hardly any water to be obtained except by Artesian wells, and water is wanted as well for drinking as for washing and other domestic purposes.

The fire department costs the city about $40,000 a year. A small reservoir costs about $300 and a large one from $800 to 1000. The water in these is stagnant, and that in the salt water reservoirs is so filthy that when thrown upon goods it destroys them nearly as certainly as fire would do. It is also destructive to the clothes of the firemen, so that we prefer the fresh water reservoirs, when they can be obtained. There are fifty-six reservoirs in the city, holding from 3 to 400 hogsheads each. We have nevertheless been much alarmed at several times for the want of water and it is my opinion that we have not the means to extinguish a fire of any magnitude, if it should occur at a place or time when the tide water would not be available. Witness then described the fire in Dover street the preceding year, at which the Franklin school-house was consumed. The great want at that time was of water. It was necessary to bring it through three or four engines which much diminished the force that the department could bring to bear directly upon the fire, and disabled it although engines were brought into town from as far as Waltham. If there had been then as there are now houses on the eastern side of Dover street, there would have been no means of stopping the fire short of South Cove. In my opinion we have no means of stopping a serious fire that should break out in the centre of the city, or even nearer the water at a time when the tide is down.

At the south part of the town we have nine mains from the Jamaica Pond aqueduct to be used in case of fire. There are mains also in other parts of the city, but they are never depended upon south of Boylston street.

At the fire by which the crockery store in School street was destroyed some time ago there was a great want of water, and I was told that some of the nearest reservoirs were exhausted. I do not now remember the particulars.

Wells are built for $1,25 a foot for the digging and stoning, the owner supplying the materials. My reservoir, is a double one and more expensive than usual and would not be a fair criterion. It cost a good deal of money. I do not recollect the exact sum. I have no doubt that a great mass of the people of Boston wish to have water brought into the city, they paying for its use. I was not accessary to any unfairness in producing the popular vote. I don't know that any body was and I don't believe there was any.

I have no doubt that water at a fair price would be paid for. I think this because it would be for the people's interest, and cheaper than keeping their pumps in repair. At 6 or 8 dollars a year I believe it would be for their interest to take it. It would undoubtedly be taken in the part of the city which has been called the supplied district. I should be willing to pay 20 dollars a year for it if it could not be got for less—although I have now every convenience for the supply of water that the city now affords. I presided at several meetings at Faneuil Hall on this subject. I saw no attempt to overawe me. This could hardly have been, as seven-eighths of the people there were on my side.

At the last meeting, I should think there were 800 or a 1000 present, possibly 1200. This was the meeting after the Commissioners reported. There were several meetings adjourned from time to time, awating the report of the Commissioners. The meeting in the morning was very small, it having been announced in the papers that it would only meet to adjourn. I know of no unfairness at these meetings, and no one interfered with my duties as chairman.

By Committee. South Boston is well supplied with water for domestic purposes, but there would be great danger there in case of fire. There is no dependance there in such a case, but three small reservoirs, and the salt water from the river and bay.

Direct resumed. I think the fire department is now too small. If a supply of water is not introduced from out of the city it must be increased. If this should be the case it might be reduced ; perhaps from 14 engines to 12.

There are many persons who have a sufficient supply of well water who are obliged to purchase soft water in the summer time. Large quantities were brought into the city from Charlestown last summer and sold at high prices.

The reason why the report of 1844 was printed and circulated, according to the order of the City Government before that of 1837 was, that the Water Committee having been directed to report in print, the former report was already in type, and upon the new order being passed the type was kept standing, and the 7 or 8000 copies ordered were struck off immediately. The report of 1837 was 95 pages long, and it took some time to set it up and prepare it for delivery—but there was no unnecessary delay, and I frequently called upon the printer to hasten it. It has been distributed long before now.

Cross-examined by Mr. Bartlett. I have frequently visited Spot Pond at other times than that of my visit in last September. My opinion as to the way in which it is supplied arose from the fact that the water is so low there in summer. I often drive in that direction in summer time, and have observed that it was very low at that season. I inquired of the man who lived in the house then and kept boats there, if there were any springs, and his answers were not satisfactory. There had been heavy rains before my visit there in September. I was invited to go there on that occasion by the trustees, who I suppose held a mortgage on the pond—several gentlemen went with us. There were Mr. Hayward, the Engineer, Mr. Darracott, Mr. P. W. Chandler, the President of the Common Council, Mr. Buckingham, of the Courier, Mr. R. H. Eddy, and perhaps half a dozen others.

Mr. Brimmer was then cross-examined with regard to the existing supply of water in the city. The circumstances of the Dover street fire, and the meetings at Faneuil Hall, but no new facts were elicited. With regard to a statement which had been made by a witness before the Committee that the nominations of a Committee at one of these meetings had been furnished him by other persons, he stated that he had made those nominations himself.

The Committee then adjourned to meet the next morning.

FIFTEENTH SESSION. *Thursday, February* 27, 1845.

Continuing the rebutting evidence for the city, Mr. Warren put in a table showing the amount of tax raised in each ward of the city. This showed that the greatest amount of wealth was in the wards 4 and 7.

The whole city tax for last year was $744,210.

Of this ward 4 paid - - - - -	$133,000
" 7 " - - - - -	118,847
These two wards together paying - - -	$251,847

yet these wards were strongly in favor of the introduction of water, according to the present petition; for it would be seen by the certified copy of votes already in the case that they voted:

	Ward 4.		Ward 7.	
	Yeas.	Nays.	Yeas.	Nays.
On the question of bringing water from Long Pond,	586	278	538	247
On the question of leaving the matter to the further action of the City Council,	149	709	203	540

Mr. Warren then put in a letter from Zebedee Cook, President of the United States Insurance Company in New York, to Joseph Bradlee, Esq., dated January 9, 1845, as to the effect of the introduction of the Croton water on the rates of insurance in that city. The rates had fallen 40 per cent. within a few years, of which in his opinion 30 per cent. was to be attributed to the introduction of the water, and 10 per cent. to competition.

Also, a letter from James A. Coffin, of New York, President of the Croton Aqueduct, to L. Norcross, Esq., dated February 14, 1845, speaking of the advantages which had accrued from that work, and stating that he believed that the opinion of the citizens was that they would not now be without it even if the debt that it had cost were trebled.

Mr. *Warren* then read several of the remonstrances which had been presented to the Legislature, when the city petitioned for leave to introduce water from Spot Pond in 1839, (to show that objections of the same character were raised then as now, although the remonstrants, now that the city wished to take Long Pond, urged that it ought to go to Spot Pond or some other source,) viz:

The remonstrance of the town of *Stoneham*, representing that it contained valuable mills that would be ruined by the execution of the project, that it would cause great damage to the lands adjoining, and that the Legislature ought not to jeopardize for such a purpose the property and rights of individuals and towns. A similar petition from a Committee of the town of *Malden;* from *Abel Baldwin* and others of Stoneham; from *William Barrett's* heirs; from *Thomas Gould* and others, and from the town of *Medford*, referring to the damage expected from damming up the outlet of Mystic Pond.

THOMAS B. CURTIS was then called. Has been in the Common Council for four years. My attention has been thus called officially to the subject of introducing a foreign supply of water into the city. My opinion is that there is a very urgent want for such a supply, both for domestic purposes and as a protection against fire. It is also needed as a supply for the shipping. There are about 7000 vessels cleared at our custom house annually for the foreign and coastwise trade, each of which is obliged to have a certain amount of water. I have obtained from the custom house, the following statement of clearances in 1844:—

	FOREIGN.	COASTWISE.
Ships and Barques, - - -	295	323
Brigs, - - - - - -	530	803
Schooners, - - - - -	1154	3774
Sloops, - - - - -	20	109
Galliot, - - - - -	1	00
	2000	5009

This gives 7009 vessels in all. If we suppose the cost of water for each to be at the rate of $5 a vessel, which is a small average, it would make a cost of $35,000 per annum. The water is now brought from the adjoining towns and from South Boston. If there were an abundant supply they could all obtain it from jets at the wharves and quays. The price varies from 50 cents to 75 cents a hogshead, and have paid $45 for watering a single vessel.

I have lived nearly fifty years in Boston, and have visited every part of it frequently, and of late with particular attention to this subject. I think that this want of water is a pressing want. I myself am as well supplied as anybody, I have a well twenty feet deep, of which the water is pleasant to the taste and appears pure to the eye. I have had it analysed by a chemist, and the result was such that now I do not like to drink it. [Mr. Curtis here gave some amusing anecdotes of some tests of city water considered the purest, had before a previous Legislative

Committee which had shown them to contain animal, mineral and vegetable matter. He also described a rain water cistern which had been made to leak by a series of "pin holes" eaten through its metallic lining by the chemical impurities of the water.]

Examined by the Committee. I do not know of any well water in the city which will wash. I have heard that there are two or three wells that furnish water which will.

Direct resumed. Mr. Hayes the chemist, who made the former analyses, said that he did not know of a single well of good water in Boston. I am interested in some property at the North End. From that 100 to 150 persons have to go a long distance to get water. There is a well in Bartlett street to which they go, which the proprietor has dug to the depth of 90 feet, and from which he sells the water. It is a well in a small yard, surrounded by a box which is kept locked, so that no one may get water from it without paying for it—and even this sometimes fails.

By the Committee. I have no question that the water if introduced would be used in all new houses built in any part of the city, because the aqueduct arrangements are cheaper than cisterns, wells and pumps.

Direct resumed. I have known many instances of the "underground war" caused by a new well sunk to a greater depth than the older ones in the neighborhood, exhausting them. [Witness went into the particulars of a case of this kind with regard to Parker & Whitney's well in Court square.] I reside in ward 4. When the water vote was taken I was at the ward room from the opening to the close of the polls. Saw no unfairness with regard to the vote. There were people present on both sides urging the voters, but there was perfect openness and I believe the citizens voted as understandingly as on any other question. According to my knowledge, the desire for the introduction of water runs through all clases of people, from richest to poorest, without any distinction from lines of property. The objection seemed to come from a small number of gentlemen, who were however exceedingly active. They are the same now as were formerly active against introducing water from Spot Pond. A few have died or resigned, (laughter) but they are in general the same, and employ the same counsel.

By the Committee. I have no question that owners of real estate would procure this water for their houses, because if it were supplied for 5 or 6 dollars annually, it would be cheaper than to keep their pumps and cisterns in order. The Croton engineers considered the saving in insurance by the structure of that work, to be from 30 to 50 per cent. The rates are lower and the safety greater. Our rates are now about the same as in New York, but would be decreased by the introduction of water. Our insurance stocks are now high, the business having been very profitable here. One reason that our rates were formerly lower than those in New York, was that our fire department was better than theirs. The Croton aqueduct has equalized this somewhat.

Mr. Curtis was then cross-examined as to the extent of the want of water in the different districts in detail, and the number of vessels requiring supply, but no new facts were elicited. He said that he believed that he did vote for the Spot Pond project in 1838. He then thought that source of supply sufficient.

The Committee then adjourned to meet the next day.

SIXTEENTH SESSION. *Friday, February* 28, 1845.

The rebutting evidence for the petitioners was resumed.

GEORGE W. CRAM, (*called.*) Is a builder—has built houses in all parts of the city. Has not generally put the aqueduct water in the houses he built ; on account of the expense and want of certainty. Uses the aqueduct water himself. Lives on the east side of Warren street—have lived there 2½ years. The well water there is called very good water, but I found after using it for about 18 months that it corroded the kettles used &c., and I was advised to use the aqueduct. But my well water is considered good and a great many people from the neighborhood come to take it. The introduction of the aqueduct water cost me $27 in cash and I did part of the work myself beside. The annual charge from the company for my family is ten dollars. I know of 269 families in wards 10, 11, and South Boston who are not supplied with water. These are South of Boylston street. I traced those who were supplied from the Artesian well at the corner of Dedham and Suffolk streets, and made inquiries as to their wants. I found myself forty-three families dependant on that well. There is a great deficiency in the neighborhood of No. 600 Washington street. This I know because there is a pump in the street from which a large number of people are supplied. I have seen them coming from as far as Tremont street.

As a builder I have frequently had to buy water to mix morter with—and have paid a great deal of money for it.

I visited South Boston some few days since and called at several houses and found on First street five Artesian wells—but the water was so bad that they could not use it at all except at particular times. I found thirty-four families entirely destitute of water having to go great distances, and sometimes had to come across the bridge and get water from Mr. Wright's well in

Sea street. I paced the distance to that well and found it 1700 feet. When Mr. Alger's gate was open they got water there and sometimes at Mr. Thatcher's and Mr. Harding's well.

I knew a well dug at the corner of Broadway and Dorchester street, South Boston and at first the water was very good, but by degrees it became worse and worse till now it is decidedly bad. I know of people who reside in South Boston who have told me that they had bad water.

I went yesterday to Williams' Court. I found there 22 families who were unprovided with water. Deacon Foster owns one or two of the houses there. Mr. Francis, of the firm of Monroe & Francis, owns one or two. Mr. Carlton of Dorchester, owns tenements in which eleven families reside. A Mr. Scott owns one. There is no well attached to any of these houses.

[The Chairman indicated that it seemed to be unnecessary to press this class of evidence farther, as the want of water was pretty clearly made out. A partial want had been conceded by all parties and the evidence for the two last days seemed to have established that even the parts of the city which had been thought tolerably supplied were not so.]

As a general rule the lumber vessels supply themselves here for their home voyages.

Cross-examined. Mr. Benjamin Gould who lives in Dedham street and takes the aqueduct water said that he was frequently out of water. I have frequently heard complaints. Mr. Jeremy Morey whose store is on Washington street, near Pleasant street who also takes it told me that he had to draw water before hand if he wished to be secure of it. There has been a general complaint of want of water.

On Sea street I found 53 families who got their water from Mr. Thomas Howe's pump. It does not look like new land there, I should think the houses had been built a long time. Near the corner of Tyler street, I found twenty-three families who had to go a distance for water. They have no wells in actual use—one of them told me of a suction from an Artesian well. A Mr. Sawyer who lives in Beach street, who takes the aqueduct says that he is frequently put to it to get water ; that it would often take him several minutes to get a pail of water.

The cases which I have spoken of in general, are those in which the families have neither wells, acqueduct or cisterns—I have built a great many houses, in almost all parts of the city, and I know that very many persons would be glad to take the aqueduct if it were not for its high cost, and if they could be sure of a supply.

I remember another case of Mr. James Hendley, (south of Boylston street) who told me he took the aqueduct to supply a small engine on Front street, but it frequently failed. This, however, was before the new pipe was put in.

Mr. *Cram* went on to give other cases in detail—and in reply to a question from the Committee, said he had heard similar complaints in general conversation at the south part of the city. He had heard many say that they should like to take the aqueduct, but could not afford the expense of the fixtures.

Direct resumed. In ward ten, in many places it is impossible to use the aqueduct without a cistern. We could not get a drop of water unless we caught it in the cistern at the time that it happened to run.

Mr. Warren then put in a copy of a petition that was offered to the last Legislature, by the proprietors of the Middlesex Canal, asking leave to close parts of their canal, and to bring in the water as a supply for the city. This petition represented "that by reason of the charter heretofore granted by the General Court, to the Boston and Lowell Corporation, and the Nashua and Lowell Railroad Corporation, the receipts of the said proprietors have been so much diminished as to be inadequate to pay the expenses of the canal, which has now become *nearly useless to the public as a means of transportation*, notwithstanding the utmost exertions of the proprietors to maintain the same in complete repair, and to furnish to the public every possible accommodation. That the said canal is fed by the waters of Concord River, and your petitioners having caused the water to be analysed by skilful chemists, find that its qualities are such that it is eminently fit for the use of the inhabitants of the City of Boston and neighboring towns."

George Darracott, having been called, and questioned on the same point, the *Chairman* stated that the Committee conceived that the necessity of a further supply of water for the city was *sufficiently* proved.

Mr. Warren said that he would then turn the investigation into another course from that he had intended.

Mr. Darracott. I am a citizen of Boston. Last September I went to Spot Pond with Mr. Wm. Thomas, Mr. Brimmer, the Mayor—and others. We made an examination of the pond, going over it in a boat. The water was not so high in the pond as it is sometimes, but higher than it had been. In two instances, when it was proposed that the boat should take a particular direction, the boatmen stated that the water would not be deep enough. We went to the outlet; no objection was made, but it was said that it would be too dark before we returned, if we staid to see it. We found that the outlet measured 24 by 18 inches. The water was a little above the sill of the gate. Mr. Thomas told me that the water had been raised a little by the fall rains. A man to whom he referred said that it had risen just seven inches. The water then stood four or five inches above the gate. My own impression is that it was four inches. Since that some persons have thought that it was five inches. But at any rate, we inferred that there must be some time in the season when on water ran through the sluice. It was said that it had been so that year for six weeks, and I remarked that if the aqueduct had been constructed the city would have had no water for that length of time. It was replied that the water had been previously wasted, but I observed that the pipe proposed was larger than the whole contents of the existing sluice-way.

This examination changed my opinion. I had been previously in favor of Spot Pond as a source. I knew its natural elevation to be favorable. I now think that it would supply the remainder of the city as well as the Jamaica Pond aqueduct supplies its tenants, but it might not in a dry season. If the city had depended upon Spot Pond for a supply, it would last year have been entirely without water for a time, if the water was used as freely as it is in other cities.

By Committee. I have not estimated the number of gallons that Spot Pond would supply.

[Mr. Warren here remarked that he would ask no questions of this witness as to the *want of water*, as the Committee had intimated that that point had been made out, and the Chairman replied : " I do not think it is necessary, sir."]

Cross-examined. The size of pipes proposed from Spot Pond, was thirty inches. Know that that pond was measured by a "guage." I have confidence in the measurement of Mr. Geo. Baldwin. I have not thoroughly examined Mr. Eddy's plan for enlarging the capacity of Spot Pond. I don't know whether our people would use water more freely than is done in Philadelphia. I think that much water is wasted in New York. I believe that if pure soft water were introduced here, every family would eventually use it. A few would for a time continue to use their wells, cisterns and other contrivances, but they would soon get over their prejudices.

I don't know anywhere in Boston where there is a copious supply of good water. Some persons get a good ordinary supply, but there is nowhere the same free abundant supply that there is in New York and Philadelphia. So far as I know the supply furnished by the present aqueduct, it is deficient part of the time, and the tenants are never allowed to use it with freedom. I know of nothing in the habits of our people that would lead them to use it more freely than at the South. I believe that Jamaica Pond is forty acres, and Spot Pond two hundred and eighty acres in area ; but Jamaica Pond is supplied by springs under the surface that surrounds it, being only a breathing hole for a large space.

The Committee then adjourned to meet the next morning.

SEVENTEENTH SESSION. *Saturday March* 1, 1845.

The rebutting evidence for the petition was resumed.

NATHAN HALE, (called.) I reside in Boston. Have examined the subject of the introduction of water, in consequence of having been appointed a Commissioner upon it in 1837, to fill the vacancy occasioned by a resignation in the Commission of that year. I was concerned in the reports of 1837 and '38, and was subsequently appointed on the new commission last summer; acted with the Commissioners in all their investigations, and in framing their report.

We spent much time in investigating what quantity of water ought to be provided, that being one question to be determined before a selection of a source could be made. We examined all the sources in the neighborhood of the city; some of them only cursorily, but Spot Pond very particularly, because it consists of good water, is high, and is conveniently placed for the introduction of its water by pipes. If water is brought in through pipes, a much greater descent is required than by other modes. We gave particular attention, therefore, to the quantity of water in Spot Pond, and a guage was prepared to measure it, which is, I think, entitled to the utmost confidence. [Mr. Hale then proceeded to describe this guage, and the manner of measuring the water by it.] The result of this measurement was stated in our report of 1838. We calculated that it would yield 1,444,120 gallons a day, as the minimum supply. We had before estimated it larger; I think at 2,100,000 gallons in our report of 1837. The average we stated in 1838 at 1,700,000.

During the investigation, neither member of the Commission expressed an opinion as to the source. We thought that the water of Charles River was not so good, but that if it was cheaper, we ought to report in favor of it, and therefore investigated with regard to all three sources. Spot Pond would have been the cheapest if there had been water enough. But it was necessary to provide some supplemental supply. Mystic Pond was the most convenient for this purpose, because it was in the line from Spot Pond to the city, and Mr. Treadwell and I thought that the cheapest plan would be to bring in the water from these two ponds. At that time we were not satisfied of the efficiency of a brick aqueduct, laid in American hydraulic cement. There was some reason then to suppose that the water would be injured and the cement softened. That doubt is now entirely removed by the use of the cement in the New York aqueduct, and in reservoirs here and elsewhere. We, however, on these grounds, recommended the water from Spot Pond with a supplemental supply from Mystic. We estimated the population of the city then at 80,000, and entered into a calculation, perhaps an abstruse one, to prove that the supply from Spot Pond being supposed to be sufficient for the then want, the fund would be so increasing as to pay for pumping up the water from the Mystic to supply future wants; that as the want increased the means for furnishing the supplemental supply would increase. But the population is already beyond the limit of the extreme of our calculation, and it would now be a great saving to supply the whole without going to the expense of pumping. The estimate of the cost of introducing the Spot Pond water, with a provision for using the Mystic as it should be needed, was in the report of 1838, $839,806. I have revised this estimate, putting in the reduced prices of iron and lead, and should now deduct $89,759, which would make the present estimate of the cost of introducing 2,500,000 gallons, $750,047. The water from Long Pond, introducing 7,000,000 gallons, would, according to this, have cost $220,000 more. [Mr. Hale read from the report as to the prospective increase of the Spot Pond supply by the use of the water of Mystic Pond, showing that the estimate for the supply of 4,200,000 from the two, would be only $27,000 less than that for the full supply from Long Pond.]

We had a good deal of discussion about the means and expense of crossing Charles river with the pipes from Spot Pond, but we were of opinion that there was no mode which could be safely relied upon. Any mode would have been experimental, with doubtful expense and uncertain results. It was therefore thought it would be necessary to come round through Cambridge, crossing that river higher up over the Brighton bridge. The Legislature have since authorized the construction of a draw in that bridge, which would make even that passage more expensive.

As to *Long Pond*, we did not have the same facilities for measuring it in 1837 as we had with Spot Pond. [Mr. Hale here stated the means taken for this measurement, referring to page 9 of the Report of 1837.] We by these means settled on 5 feet a second as the natural resource of the pond, without depending upon the accumulation, and we have now no facts to change this opinion. This, with all due allowances, gives the result of 7,000,000 gallons a day, as we now estimate it.

Witness was then examined as to the character of the structure. In 1837 we proposed a structure similar to that now recommended, in case the water was taken from Long Pond. We have however changed the form from a circular one to an oval for satisfactory reasons. We were then satisfied that it would be very strong, provided the cement was to be depended upon, of which I have said we had then some doubts, which have since been removed. I had no occasion to examine this matter again until appointed on the commission of last year. We then visited New York for the purpose of obtaining information generally upon this subject, and particularly with regard to the efficiency of brick and cement for such purposes. The gentlemen connected with the New York work were very obliging to us, and afforded us every facility, and answered every inquiry as fully as possible. We found that there was nothing more durable than brick laid in hydraulic cement. I believe it would last forever. The cement gets as hard as the brick itself, and when a mass of it is broken by extreme force it is found that the hard-burnt brick breaks as easily as the cement. I do not know its strength in comparison with mortar. The proposed Long Pond aqueduct is 8 inches thick, precisely the same as the Croton. [Mr. Hale here briefly compared the two structures.] Ours is a different structure from the Croton, but I believe that it is the strongest structure. It is fully as strong as the Croton, and none of the scientific men whom we consulted in New York spoke otherwise of it.

We shall have very few embankments and those very low. Mr. Baldwin and I were both of opinion that on these the foundation could be made as solid as on natural earth. But if a stone foundation is necessary at all, it is only on the embankments, and the whole distance where we have any embankments is only 8000 feet, and much of that is only one foot high. The soil is very favorable, most of it gravel. I have made a calculation of the expense of a stone foundation in these places should it be found necessary. Making it 9 feet wide, it would require 18,194 perches of stone, which can be laid at $1.50 per perch, and deducting 17 cents a perch for earth, (for if the place is filled with stone the expense already allowed for earth may be deducted) this will amount to an additional expense of only $24,198.

As to water rights. We put the water rights and land damages down at $100,000. We have looked at the subject in every point of view, and are satisfied that this sum is enough. Mr. Knight may be compensated by furnishing him the means to carry on his works by steam; it will not be necessary to abandon them. He is content to be furnished by steam power, with which indeed his works can be carried on somewhat better than by water, if he can only have water enough to wash his wool. The most serious claim in 1837 was supposed to be that of the Middlesex Canal Company. The reply to this claim will be found in the documents. We have not stated any particular sum as the amount of their damages, but are fully of opinion that a supply of water can be furnished them by artificial reservoirs constructed to retain the water from the spring when there is an over-supply till the dry season, when it is needed. They could be easily supplied in this manner with all the water needed, even if they did a full business. Some of the proposed reservoirs looked to for this purpose, have been since the Report of 1837 bought up by individuals, but there are others, which it was not necessary—and it would not have been prudent—to indicate specifically in the Report.

The Committee here adjourned to meet on Monday morning.

EIGHTEENTH SESSION. *Monday*, *March* 3, 1845.

NATHAN HALE. *Direct resumed.* We had before us the reports of the Croton works up to 1837, inclusive. We knew the plan of their work. And we adopted the circular form of aqueduct because we thought it more economical, and decidedly stronger than any other form, in proportion to the masonry used. It is very much stronger in proportion to the amount of masonry than the form used in the Croton works.

We knew of no form of aqueduct like it, but we found that the city reservoirs in this city built on a similar principle, proved well adapted to their purpose and strong and firm.

When last year it became necessary for us to prepare another estimate for an aqueduct, the question came up whether we should adopt the form proposed in 1837. We resolved to retain the general principle, but to change the form so far as to admit the passage of a man through it, to repair it when necessary. The former plan was for an aqueduct 4 6-10 feet in height. We made our new plan for an oval aqueduct. The old plan would carry all the water needed, but we did not wish it filled with water. There should be a circulation of air above the water. The section of the plan which we adopted gives a semi-circle at the bottom, the sides draw together above the horizontal diameter of this semi-circle, and unite at the top in a curve nearly the arc of a smaller circle. This gives most capacity at the bottom and most strength at the top, where most strength is needed. The smaller the arch the stronger. We were satisfied that this was decidedly the best shape. We wanted height but not width, and this gave it without waste of material

To Mr. *Dwight*. In an aqueduct of this shape and size, the water can be drawn down and a man may pass through in a small boat to repair it.

An aqueduct thus laid, with walls of double brick, laid in hydraulic cement would be abundantly strong for every purpose required. It rests on the natural earth where that is firm and solid. Where it is loose it must be made sound of course. But we are sure that such an arrangement is better than any of a single range of brick on concrete on any other foundation.

The internal section of the Croton work is 53 square feet, that of ours is 24 square feet.

The drawings which I exhibit show the form of the Croton; ours—instead of this expensive stone work at the bottom gives a curve, a stronger form, of brick laid in cement.

Our views have since been entirely and exactly confirmed by testimony of English engineers examined before the Parliamentary Commission on Health in large cities, in the year 1843.

Mr. H. then read from a large volume lately printed by order of the British Parliament containing minutes of evidence taken before "Commissioners of Inquiry into the state of large towns and populous districts, in regard to drainage, supply of water, &c." the following passages :—

From the evidence of WILLIAM HOSKINS, Esq., Professor of Architecture in Kings College, June 10th, 1843,—the Earl of Lincoln in the Chair.

"What do you consider the best form of drain? I think the best form to be that of the longitudinal section of an egg, placed with its small end down. It confines the water when there is a small quantity, so that it may act upon the substances that pass into the drain with most effect, and it gives an increased space to the water as it increases in depth."

June 17, 1843. Evidence of WILLIAM D. GUTHRIE, Esq.

"What form would you recommend for the secondary drains, such as are to receive a number of small ones? I think the form adopted by the Holborn & Finsbury Commissioners is the better form.

"You recommend the form of the different descriptions of drain adopted by the Finsbury District? Yes; they are egg-shaped.

"That gives greater strength? The greatest strength is by that form secured, and it has the additional advantage of rendering efficient a small quantity of water, the apex being turned downwards."

"June 24, 1843. The Duke of Buccleugh in the Chair. Evidence of EDWARD CRESSY, Esq., an Architect of 30 years practice.

"With respect to the particular forms of sewers, have you turned your attention to that subject at all? I have often considered the form used in the Borough District, and also the Westmininster District, and in other districts, and my impression is that the form which would nearest approach an egg-shape, would be the preferable one. There is more economy in it, and greater strength.

"With respect to the form of the sides of the drain, do you conceive the form of a curve to be stronger than an upright side? If you were to take the section of an egg, I do not think it would be possible to have a better form. You would have more strength by that than by any other form.

"That would embrace a curve for the sides? Instead of having a straight side, you would have a slight curve; you might have a curve at the bottom, and a curve at the top.

"That would enable you to have a resistance to the lateral pressure, which is a considerable object, where you have loose ground? Exactly.

"Would it also enable you in any given circumstance, to make the drain of greater strength with less material? Certainly; there is less material required in that shape than in the Westminster sewer. If you have the same quantity of material to use with the egg-shape that you have with the section of the Westminster sewer, you will get a much greater capacity."

"*March* 21, 1844. Evidence of B. Williams, Esq., Civil Engineer and Professor at the College of Civil Engineers at Putney.

"Have you had occasion to examine the forms of sewers? I have examined, among others, the forms of some of the sewers in the metropolis, viz: those of the Westminster, the city, the Finsbury and Holborn district.

"Have you compared the qualities of those sewers, in respect of economy of materials, strength and adaptation to the passage of water? The difference between the Finsbury and Holborn and the city of London sewers is very inconsiderable; both are designed on the same principles, and with the same views towards the economy of materials. In answering the question, I would therefore compare the Finsbury [Fig. 1.] and the Westminster sewers, [Fig. 2,] respecting the form, of which there exists a wide difference. First, as regards economy of materials, the upright sided sewers, with horizontal footings, requires for the same water way, a much greater number of bricks than the egg-shaped sewer. Comparing sewers of the same class as in the Westminster district, it is found that the upright side sewer contains for one foot in length, 261 bricks.

The egg-shaped, for one foot in length,	175	"
One mile of the first would require therefore,	1,378,080	"
One mile of the second would require	924,140	"

Fig. 1.
Finsbury Sewer.

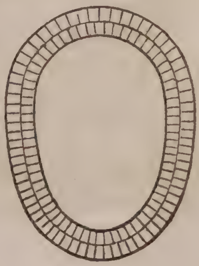
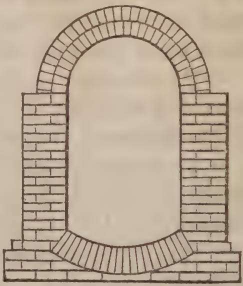


Fig. 2.
Westminster Sewer.

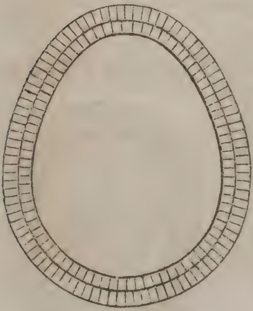


"One mile of the sewerage of the upright form would require upwards of half a million of bricks more than one mile of the egg-shaped sewer, and the number of bricks that would complete one mile of the upright formed sewerage would suffice for one mile and a half of the egg-shaped sewer. The number of cubic yards of brick work per mile of sewerage, would be for the upright sided sewer 3,888 cubic yards.
For the egg-shaped 2,272 " "
Giving an excess for
the former of 1,116 " "
Which, valued at 20*s.* a cubic yard, would amount to £1,116. But the excess of expenditure would not be with the brick work only. The width of the footings used in the upright sided sewer causes great additional expense in the excavation. The gullet must be excavated at least eighteen inches wider than for the egg-shaped sewer. The depths to which the excavation of the main lines have to be carried, average generally twenty feet."

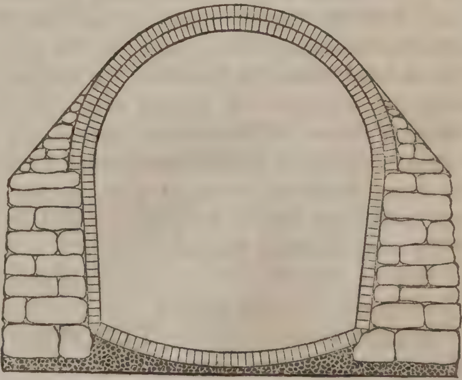
[Here the witness went into the comparative cost of the two kinds of structures, exhibiting a difference in favor of the egg-shaped of £1,660 3*s.* 3*d.* per mile, which, according

Note. For the purpose of showing the analogy between the egg-shaped sewer, as described by the witness, and illustrated by a cut, and the egg-shaped aqueduct recommended by the Commission for conveying the water of Long Pond, and also between the Westminster form of sewer and the form of the Croton aqueduct, the following cuts are subjoined, exhibiting on the same scale [five feet to an inch] a section of the two aqueducts.

Long Pond Aqueduct.



Croton Aqueduct.



to his computation, had the improved form been adopted during the last ten years in five districts of the City of London, would have produced a saving of expense to the amount of nearly a quarter of a million pounds sterling, and this he believes would have been but a part of the benefit which would have resulted from the adoption of the improved mode.]

"In respect of the strength, how have you found the sewers, with upright walls, and with arched walls, to stand? No instance of the failure of the arched sewer has come to my knowledge. I have seen one instance, near Notting Hill, where the upright sewer had fallen in, been rebuilt, had again fallen, and was rebuilt a third time, with extraordinary precautions of piling and stuffing to resist lateral pressure from a slip which was forcing in the upright side walls. Informed of this failure, and knowing that it would offer a useful lesson to the students of Putney College, I took them to examine the work. In one place the whole culvert had slipped bodily with the clay, the form being at the same time distorted. This moving bodily would have occurred with any shaped sewer; but the displacement in the mass was the exception. Usually one of the upright sides, and sometimes both the uprights, were crushed inwards towards each other, the invert retaining its position in the longitudinal direction of the sewer. In one place I observed that the invert had been forced upwards when the resistance from the upright walls had been withdrawn.

"In those portions which were not carried away bodily by the slip, do you think that the failure, either wholly or partially, arose from any defect in the principle of construction? I think that the failure arose partially from the want of power in the upright walls to resist lateral pressure so effectually as may be done by arched sides."

"If proper science were available, would there be any question as to the shape, in respect of strength? I believe not. I am aware that there are certain physical questions which have been investigated scientifically, and about the results of which investigations much difference of opinion still prevails. But a well known theory of the equilibrium of sustaining walls on earth, is universally accepted as true, and is confirmed to be such by its repeated application in hydraulic works, and frequent adoption for culverts, retaining walls &c. The theory, the investigations of which were first pursued by Coulomb, indicates that a sewer, with an external convex form, to resist lateral pressure, is the most stable. With firm ground the egg shaped sewer would be the best. For known conditions of varying densities in the external earth, modifications from the egg-shape would be required, but in no case departing from the application of the principle of the arch. With semi-fluid ground, it should approach more nearly to the form of the circle. The egg-shape, however, presents this important advantage for the conveyance of water, exclusive of its superior strength and economy, that when the water is small in amount, the narrowness of the lower part gives a greater hydraulic depth, and therefore produces increased velocity, and when the body of water is increased, more capacity is obtained. The superiority of the egg-shaped sewer, in point of strength, is so self-evident, that it really appeared a work of supererogation to demonstrate it technically. All grant that the properties of the arch are such as to resist pressure, with the least consumption of materials, and, that the outward batter or slope is useful to resist the lateral or inward pressure of the external earth, is an admitted principle, acted upon instinctively by every one. Whoever walks against the strong wind, instinctively leans forward against it, being well aware that, with the body in an inclining or sloping direction, he can resist its force better than if he stood upright."

The Commissioners had no doubt that the whole work could have been contracted for at a less price than they estimated, and I have had no reason to change that opinion. Unless there should be some material change in the price of labor or materials, I have not the least doubt that the work could be done for less than the cost estimated in the report. I consider the structure fully sufficient, whether there should be a foundation wall laid in the embankments or not. If there should, I have given my estimates of the stone work necessary, which would amount to but little over $25,000. I have here a table of embankments and excavations, which shows the amount of each. It will be seen that the greater part of the way the aqueduct will be in excavations, and consequently under ground. On the Croton work there has been a large expense for ornamental work, which we have not considered necessary. Their expenses for rock cutting, both open cutting and tunnel cutting, were, from the nature of the ground, much greater than ours will be, even in proportion to the distance. The Croton work crosses several streams and deep ravines, while the ground between Long Pond and Boston is very favorable for such a work.

My opinion upon the effect of this work upon rates of insurance, is expressed in the Report of 1837 (p. 42 of the new edition, 34 of the old,) as follows:

"It is the opinion of persons conversant with the hazards and rates of insurance, that the risk of loss by fire, and, consequently the rates of insurance, which would be charged by insurance companies, if such a system for the supply of water as is now proposed were introduced, would be reduced about one third,—the present average rate, being not far from forty cents on a hundred dollars, per annum. The amount of property in the City of Boston, exposed to the hazard of destruction by fire, is probably not less than $75,000,000. Admitting therefore that the risk of insurance on this property is at this time equal to 4-10 of one per cent., and that the proposed supply of water would reduce this risk by one third, the saving which would then be made to the inhabitants of the city in the risk of loss by fire, would be equal to $100,000 per annum. It is not material that this estimate should be scrutinized with great exactness. Whether the sum here named be too high or too low, will not be questioned, that the annual saving from loss by fire would be equivalent to a very large sum, and would go far to reduce the hazard of those distressing conflagrations, which sometimes occur, and which, from the amount of property destroyed, and the number of persons deprived of employment give a sensible check to the growth and prosperity of the city."

This opinion I took at the time from the gentlemen I supposed most able to form a judgment upon the subject. I remember having consulted with Mr. Balch upon it.

Mr. Hale was then examined, as to the amount of supply necessary. He took the amount used in Philadelphia as a good standard of the amount needed; better than the example of any foreign city, because the condition of the inhabitants, and their habits of living, more nearly resembled those of our own citizens. The Commissioners of 1837, for this reason, took the quantity supplied by the Philadelphia water works, in proportion to the population of the district supplied, as the basis of their calculation. This amounted, according to their estimate, to 28½ wine gallons for each inhabitant. The last report of the Philadelphia Watering Committee shewed a little larger amount of supply. He referred to the following statement, at page 25 of the report of the Watering Committee of 1844.

"The consumption of water in the city and districts, during the year 1844, were as follows:

	Gallons.
From January to April, a term of 13 weeks, an average daily supply of	3,654,517
From April to July, a term of 13 weeks, an average daily supply of	5,445,291
From July to October, a term of 13 weeks, an average daily supply of	6,949,102

Being an average daily supply of 5,330,455 gallons, equal to 189 gallons to each water tenant.

The above supply of water was distributed as follows:

	Tenants.
To 14,021 tenants who pay for the water in the city, and to 3,500 families who receive a supply without charge, from public hydrant pumps, making together in the city	17,521
And by private hydrants in Spring Garden,	3,470
" " " Kensington,	735
" " " Northern Liberties,	3,478
" " " Moyamensing,	664
" " " Southwark,	2,214
Together,	28,082

The Philadelphia water works were constructed at the sole expense of the City of Philadelphia, independently of the districts. It was therefore supplied at a lower charge to each tenant, and more fully supplied, as appeared from the above statement, the population of the city according to the census of 1840 being 93,665, and that of the five districts 126,758. The supply to the city he considered as the proper test of that which would be required for the City of Boston. The number of tenants in the city, including 3,500 families supplied without charge, was 17,521. The average daily supply for the year of this number of tenants, at 189 gallons per tenant would be equal to 3,311,469 gallons for the inhabitants of the city, which quantity divided by 93,665 the number of inhabitants, gives a fraction over 35 gallons to each. This was the average daily supply for the whole year. The daily supply for the summer months was nearly a third more. He said it would not be sufficient to provide means of supplying only the average demand daily. The demand would be very unequal, and the supply should be sufficient to meet daily the greatest demand likely to arise on any day. This would be in summer much greater than in winter, and on some days of the week much greater than on other days. He considered therefore the computation of 28 or 30 gallons to each inhabitant, taking double the present population of the city, a very moderate estimate of the quantity of water which ought to be provided for.

Cross-examined by B. R. Curtis, Esq. We did not in 1837 make a definite plan for reservoirs to supply the deficiency created in Concord River. We had no authority to make purchases or do anything towards procuring that supply and therefore could not take definite action. The recent Commission did not go at all into this inquiry.

By the Committee. We were satisfied that there are sources of supply where water could be accumulated from the Spring season to be used in the dry season. Magog Pond is one of these. It was not desirable to point them out in the report so as to make them objects of speculation. Magog Pond is about ten miles from Long Pond, about twice as far from Boston. I did not go to it personally. Mr. Baldwin and Mr. George Bond thought that it would be worth while for the city to buy that pond for this purpose, but we had no power to make contracts.

By Mr. Derby All the analyses of water which we thought material were made in 1837. I have heard that there has been one made by Mr. Jackson since our Commission terminated but I do not know the result. The analysis showed a small quantity of impurity more in Long Pond than in Spot Pond. Mr. Odiorne has told me that there was water fraudulently drawn off from Spot Pond in the night at the time we were making our measurement. We had no knowledge of any such thing, and had reason to suppose that the person whom we employed was faithful and measured all the water that passed from the pond.

I have not the information which would enable me to say accurately how deep the tide water flows back into Mystic Pond. I have known it to flow back for an hour or two and to the depth of one or two feet. It never flows back any deeper to my knowledge. I should think that the depth would depend more upon the quantity of water in the river than upon the state of the tides. At high spring tides I should think that it must rise much higher. We thought this water might be shut out by a dam of moderate height and did not think there were serious objections to it, but Mr. Baldwin gave more weight to it.

I made an allowance for the fall of coal in my revised estimate of the cost of pumping the water from Mystic Pond. There has been no substantial improvement in the machinery for pumping since the introduction of the Cornish pump. Mr. Treadwell who made the estimates had Wickstead's work which has been referred to. I have allowed 10 per cent. for improvements in engines.

As to Charles River my estimate is that the cost of pumping 7,000,000 gallons a day into the reservoir on Corey's Hill would be $905,745. To bring the same from Long Pond would cost only $749,200, being a saving of $196,500. If only 5,000,000 of gallons are taken it would save $188,000 on the Charles River plan, but if the Long Pond works were reduced to the same standard there would be a similar saving.

Ninteenth Session, *Tuesday Morning, March* 4, 1845.

Nathan Hale, cross-examination resumed. My computation for the cost of pumping from Charles River to Corey's Hill is based on an estimate for two pipes that being the estimate for the supply of the city from the reservoir.

A 32 inch pipe would cost more than a 30 inch, and the increase of cost would be larger than the ratio of the increase of diameter. I do not think 10 per cent. additional would be a sufficient estimate for this increase. The metal must be thicker. I calculated the expense attending this on the same requisites as for carrying water in pipes to Corey's Hill, as in bringing it thence for distribution in the city.

If you suppose it safe to rely on a single pipe, a large one will of course be cheaper than two of the same area.

[The remonstrants here put in their estimate for pumping from Charles River at Watertown to Corey's Hill, supposing one pipe of 32 inches:—including cost of pipe, engines, waste weirs, and the principal of their estimate for the cost of pumping estimated at 5 per cent. The amount of this estimate was $857,010.]

Cross-examination resumed. I suppose Anthracite coal can be carried from Boston to Watertown for a dollar a ton. Bituminous coal can be carried for a similar price. The price per chaldron will be in proportion to the weight of the chaldron.

Questions by Mr. Derby. Can you not introduce at first a small pipe, and afterwards as the demand increases introduce a second?

Certainly. But not if you economise in pipe by using one large one instead of two of less diameter.

If you raise the water to the height of 60 feet only instead of 120, you will reduce by one half the working expenses.

Sixty feet head would suffice for household purposes in all the low lands in the outskirts of the city :—on the Neck, in the South Cove, on the Mill Pond. For the extinguishing fire the higher the head the better.

Most of the houses on these lands are not more than 30 feet high.

To Mr. Hubbard. The reservoir which we propose on Corey's hill will raise water a little above the floor of the State House.

Above that level it is of no use for economical purposes.

We contemplated a reservoir on Beacon Hill, whose pressure could be applied to the distributing pipes or not as was necessary. In case of fire, where a full pressure would be needed and the pipes should be kept fully charged it would be applied. The reservoir would itself be filled by the slower flow from the large reservoir on Corey's Hill.

In cases of fire a hose could then be attached to any stop-cock and water thrown to any part of any house in the city excepting those on Beacon Hill.

It would throw water thus in four-fifths of the city.

Spot Pond would supply all elevations in the same way, if a reservoir were thus arranged on Beacon Hill.

Baptist Pond is good water but the supply is small. It empties above the Watertown dam.

London is supplied by pumping.

The Cornish Mines are drained by pumping.

There are some sewers in Philadelphia in the larger streets and the system is enlarged from time to time. They have not a good system of sewers. The streets are washed with water.

The water rent for a householder in Philadelphia is $5,00. For special uses he pays extra rates. The great body of householders pay $5,00.

We computed at a similar rent here.

There are 20,000 water tenants in Philadelphia. I do not think it would be extravagant to expect as many here. The average rent would be above $5,00.

I have made no calculations as to the number of buildings in Boston. I should not suppose there would be more than one tenant to a building.

I do not suppose that any less amount than that at Philadelphia will satisfy our population. The experience of Edinburgh would not convince me that a less supply than that at Philadelphia would be amply sufficient.

Excepting that the population is not now so dense, South Boston needs the water as much as the city proper. The natural supply, of course, is not so largely drawn upon.

There is an aqueduct from Jamaica Pond to Boston. The water is of the first class. Its supply of course comes as an element into any calculation as to the amount of water necessary.

The average distance to which the bricks for the aqueduct mnst be carried is between twelve and thirteen miles.

The cost of carrying them would vary, from a variety of circumstances. For so large quantity as this I suppose you could contract on the average at about $1,50. Certainly not less than a dollar.

Question by Mr. Derby. Why then do you estimate in your report of '37, this cost at two cents a thousand?

That is a misprint in the pamphlet.

Mr. Derby. But the error is carried into the footing?

The error is not in the footing as may be seen by adding the items. It is in the printer's footing at the bottom of the page but not in the footing which is carried out into the general calculation. That amount contains the item stated, at an estimate of two *dollars.*

We consider ten dollars a thousand a liberal estimate for brick and carting.

Cement can be delivered for $1.50 a cask at the spot. Brick can be laid for $2.50 a thousand for the best of ordinary work. This work is a peculiar shape, and we estimated therefore at $3.00 a thousand.

If the preparations for this work were made in one season, I think it could be finished in two seasons more.

There is clay on the borders of Long Pond, and an old kiln, at which brick has been made, of good quality. I cannot say whether such can now be made there, at a price sufficiently low.

The width of the excavations at the bottom varies with that of the outside of the aqueduct. At a distance of two feet four inches from the bottom, the excavation will be six feet four inches wide. It is not intended that any earth shall be removed which must be replaced.

At the bottom of the deep cuts, the work must be done with wheelbarrows. I do not doubt it can be contracted for, should the soil be favorable, at 12½ cents a cubic yard.

By Mr. Lawrence, of the Committee. I have always found that contracts for large amounts of brick or other similar articles could be made at lower prices than for a smaller amount.

In reply to a question by Mr. Henry Williams. The Committee, in making the estimate of cost of the proposed aqueduct, did not confine themselves to the price at which the principal articles, brick, iron and labor, might be contracted for at the time, but took a somewhat higher price, such as in their opinion would cover any probable increase of price, arising from an increased demand. Am decidedly of opinion that Long Pond is the most eligible source from which to obtain the supply, on the ground of the superior quality of the water to that of any other source which will afford it in sufficient quantity, and the less cost at which a sufficient supply can be obtained.

JOTHAM B. MUNROE, called by Mr. Derby. I am engaged in the watering business, and keep a boat for the supply of shipping in the harbor. There are in all six boats employed in the business, the proprietors of which have an agreement with one another to keep an account of all our earnings, and meet monthly and divide them equally. We do all the business of supplying the shipping in the harbor. The whole amount received during the last five years was between $37,000 and $38,000. This includes the city proper, East Boston, and Charlestown, The quantity sold annually the two last years, was about $6,000. The water is obtained chiefly at Chelsea, where it is pumped by them, by hand. It is of good quality. They pay a small price for it, about $250 or $300 a year. Think that if water were introduced to the city the shipping would continue to be chiefly supplied by boats.

Mr. Derby here put in a statement, made up from the tax book, to show that the property of the Boston remonstrants amounted to $23,780,000, the whole city valuation being $118,000, He also put in a report of R. H. Eddy to Abbott Lawrence, with regard to the Middlesex Canal.

The Committee then adjourned to meet the next afternoon.

TWENTIETH SESSION. *Tuesday, March* 4, 1845.

Nathan Hale's cross-examination was resumed.

In answer to a question why the Commissioners had estimated for a smaller number of ventilators than were provided on the Croton aqueduct. Mr. H. said that they proposed to construct three waste weirs, with ventilation at convenient stations, which would divide the work into four sections, in each of which they proposed an additional ventilator, which they supposed would be sufficient, but it was a subject to which they had not given any great consideration.

He was asked if the estimate of land damages was not very low, and on what principle the estimate was made. The route proposed for the aqueduct was chiefly through pasture land, of very little value, and much of it below the surface of the ground. In this respect it differed much from the New York work, much of which passed through villages, and land of great value, and the damages were accordingly high. A small part of the route in Newton and Brighton, for perhaps a mile or two, passes through quite valuable land, but the average of the route was through land of low value.

Did not the Worcester Railroad, with which you are connected, cost much more than the estimate? It did. But the estimate was for a very different work from that which was finally constructed. It was for a single track, without depots or land, except for the train, and including a very small number of engines and cars. The present road embraces two tracks, adapted to a much larger amount of business than was originally provided for, and the land and buildings in Boston alone cost more than half a million of dollars.

In reply to a question by Mr. Hubbard, if he did not consider an aqueduct composed of iron pipe the best adapted for supplying the city, witness said that at the time of making the report of 1837, he was of opinion that a brick aqueduct, laid in American hydraulic cement, could not be so safely relied upon as iron pipe, for the reason that they were not then able to obtain satisfactory evidence that the cement had been sufficiently tested. There was some reason to apprehend, from such evidence as they had then obtained, that it might dissolve in process of time, and that it would injure the quality of the water. But ample experience since that time had removed all apprehension on that point, and he considered a brick aqueduct, constructed like the Croton works, or like that proposed here, would be as durable, and as little liable to have a deleterious effect upon the water as iron pipes.

Lemuel Shattuck, (recalled.) This table, exhibiting the miles of pipes laid, the number of water tenants, and the average number of gallons supplied daily to the whole and to each, by the Fairmount Water Works, is compiled from the Reports of the Watering Committee. I have no reports of the years not specified.

	IN THE CITY ALONE.				IN THE CITY AND DISTRICTS.			
Year.	Miles Pipe.	Free.	Paying.	Total.	Miles. Pipe.	Tenants	Average gallons supplied daily.	Each tenant.
1831	44			7,988		11,404	2,000,000	175
1834		2,500			82½	16,895	3,400,000	200
1835	54¾	3,000	10,059	13,059	93	18,704	3,497,648	187
1836	58	3,000	10,632	13,632	98¾	19,678	3,122,664	160
1838	61¾	3,000	11,436	14,436	106¾	21,947	3,850,647	175
1839	62⅝	3,100	11,956	15,056	109⅞	22,636	3,978,357	175
1840						23,482	4,034,638	171
1841	63	3,300	12,749	16,049	113½	24,828	4,445,630	179
1842	64¾	3,300	13,138	16,438	114⅞	25,816	4,297,480	167
1843	65¼	3,300	13,439	16,739	117½	26,549	4,422,400	166
1844	66½	3,500	14,021	17,521	120⅜	28,082	5,330,445	189

This gives an average for the last five years, of 175 gallons; and the prèvious six years, 178 to each tenant. In 1840, the population of the water districts was 220,423, and the number of water tenants 23,482, which gives one tenant to nearly 10 inhabitants, or 18 gallons to each, and not 28½, as stated above. There were then laid about 111 miles pipe, which gives 234 tenants to the mile. In 1844, there were 120¾ miles of pipe laid, and 28,082 water tenants, averaging also 234 tenants to the mile.

The quantity of water furnished by the Croton Works, in New York, is not measured. Last November, 155 miles of pipe was laid there, to accommodate about 40,000 dwelling-houses, and 310,000 inhabitants; and there were 8,644 paying water takers, averaging 55 to every mile of pipe, one to every 4½ dwelling houses, and one to 36 inhabitants.

I have compiled this table, exhibiting the total cost, (including only the distributing pipes and fixtures of the old works applicable to the new,) the gross income, the expenditures, and the net income of the whole of the Philadelphia water works, and for each tenant, for such years as I have reports.

	Total Cost.	Gross Income.	Expenses.	Net Income.	Each tenant.
1831	$1,178,323 54	$ 66,766 72	$63,009 57	$ 3,757 15	$ .32
1834	1,264,292 36	90,631 00	65,163 36	25,467 64	1.50
1835	1,323,580 74	92,116 82	73,288 38	18,828 44	1.00
1836	1,381,031 43	101,266 39	71,706 57	29,559 82	1.50
1838	not stated.	109,826 06	50,642 29	59,183 77	2·69
1841	1,483,300 40	134,634 67	24,701 75	109,932 92	4.42
1842	1,493,688 20	139,682 97	63,911 40	75,771 57	2.93
1843	1,584,594 05	144,765 74	63,171 84	81,593 90	3.07
1844	1,600,000 00	151,501 37	24,332 10	127,169 27	4.52

From this table it appears that the average net income for the last four years has been $3.73 for each tenant; the five previous years, $1.40 each. The City of Philadelphia has hitherto supplied the five adjoining districts,—having independent governments, but resembling the outer wards of the city,—Spring Garden, Kensington, and Northern Liberties, lying north of the city, in 1844, containing 7,683 water tenants; and Moyamensing and Southwark, lying south of the city, containing 2,878 tenants. These districts have paid 50 per cent. higher for water than was paid in the city, common dwellings paying in the former $7,50, and in the latter $5,00 each, and others in proportion. Objections have been made to paying these prices, and a contract has recently been concluded by which the southern districts will be supplied for the next ten years at the same rates as the city. The three northern districts, have, however, declined taking water even at these prices, and have erected steam works on Pratt's Hill, to supply themselves. This will reduce the number of water tenants, this year, to 20,399; the gross income to $92,287.88; and the net income to $63,087.83, or $3.08 per tenant.

Nathan Hale, (recalled.) Witness was asked if he was acquainted with the manner in which the income and expenses of the Philadelphia water works are exhibited in the published reports.

Mr. H. stated that he had had occasion to examine minutely the report of the last year, from which it appeared that the current expenses of the year for repairs and management, amounted to about $16,000, and that a further sum, exceeding $8,000, was expended for extending the works, by laying down new pipe in parts of the city and districts not previously supplied, which was also classed with the expenditures of the year. In some other years a much larger sum had been expended for new works, and the expenditures thus added to the capital, as well as the current expenses, were deducted from the receipts for water rents, for producing amounts stated as net income.

Caleb Eddy, (recalled.) When the proprietors of the Middlesex Canal, last winter, presented their petition to the Legislature, they were discouraged by the state of the business of the canal during the preceding year. They lost a debt of $4,800, by the failure of one of their debtors. The Concord Watering Company left them, and sold off their boats to the Railroad Corporation. In the year 1843, the number of passports for boats passing through the locks was 6,000. The number fell off in the latter part of the year, The income amounted to $7,000, exclusive of the $4,800 not collected. The income is about the same amount this year. The actual receipts exclusive of proceeds of sales of some property, did not quite pay expenses. This year have paid a dividend of $10 a share and have a surplus of about $1000. The boats last year were somewhat more than the year before. From contracts which have been made for next year, particularly for a large number of railroad sleepers, thinks the business will be much increased. See no reason why it may not do as well as for some time past, since the railroad has been in operation. Am satisfied that if the water of Long Pond is diverted the canal cannot be kept in operation. Any uncertainty in regard to the regularity of the business of the owners will be fatal to it. All the timber that comes down the canal is floated directly to the ship yard. The fall of Concord River for a distance of 22 miles above the canal is 2.85 feet. Do not think it would be practicable to supply the deficiency arrising from the diversion of the water of Long Pond by means of a reservoir on the bank of the river. The rise of water is four to five feet in the highest spring freshets. Water retained in a reservoir to a depth of three or four feet would be all gone by filtration and evaporation, by the latter part of the summer when it would be wanted.

TWENTY-FIRST SESSION. *Wednesday March 5th*, 1845.

Mr. Bartlett on the part of the remonstrants called two witnesses farther.

CYRUS ALGER. Has been somewhat acquainted with Spot Pond and its works. My opinion formerly—sometime between 1816 and 1822 when I went twice to the pond with a view to introducing the water to the city—was, that there was an ample supply there. I have not been to the pond since, but have been at the works below where all the water is discharged, and have not perceived any dimunition of the amount of water. I should be willing to contract to bring in the water from Spot Pond by iron pipe—using the existing bridges—and delivering it at a reservoir in South Boston for $500,000, taking ten per cent. of my pay in stock.

Mr. Bartlett then put in a calculation to show that Spot Pond would furnish 3,364,000 gallons daily.

PATRICK T. JACKSON has been connected with the use of water power for 33 years. Was one of the Commissioners of 1844. Have paid a good deal of attention to the subject of introducing water. We were only directed to report on the best mode of bringing water from Long Pond. If I were made a Commissioner to bring in water from the best source, I should not make up opinion as to what the best source was, without examining for myself.

The investigation made by the Commission as to the quantity of water in Long Pond is such as is quite satisfactory to me. I have no doubt that there is quite as much water there as is estimated by the report.

I did sign a circular proposing a company to bring water from Spot Pond. I thought the estimates for damages and crossing the channel too low, but I thought the iron at 2½ cents a pound was so much too high as to balance it.

I consider the amount estimated for land damages and water damages and for reservoirs in Boston very uncertain. It is impossible to make accurate calculations on such subjects. We allowed about four times what we thought they were worth.

Cross-examined. Disregarding the land damages and the rise in price of iron, I have no doubt that the Long Pond aqueduct could be built for the estimate in the report of 1844.

By Committee. I never went to Spot Pond but once. Then I took no measurement. I only know its size from the report of 1838. I had great confidence in the report of 1838;—but it has been shaken by what Mr. Brimmer told me and what he has testified to here about the low condition of the water last summer.

The evidence was closed with the testimony of this witness.

B. R. Curtis, Esq. who represented the Middlesex Canal made the closing argument in its behalf. [Some discussion arose before he commenced upon his proposal that the counsel for the city should inform him what grounds they proposed to take with regard to the positions of the canal. Mr. Fletcher maintained that the city could not be required to look at the canal differently from the other remonstrants, but stated that they should object to putting the city under any obligations to the canal, and should maintain that the damage to the canal would be small. Mr. F. added in reply to a question from Mr. Curtis, that he was not prepared to admit that the canal had the legal power and right to transfer its water rights to the city, so that they might be used by the latter in settling any controversy with the mill owners.]

Mr. Curtis then commenced his argument. The canal came here indeed to show cause why the request of the city should not be granted, but it was willing that that request should be granted if its own rights were protected. The question that arose was whether the Legislature would not insert a provision for this protection in any law they might pass in accordance with the petition.

There were certain facts which were beyond dispute as between the city and the canal:—

First: that the use of the waters of Long Pond was now enjoyed by the Middlesex Canal,

Secondly: that the quantity of this water was large and important,—which was shown by the city's saying that it was sufficient for its full supply,

Thirdly, that this water was essential to the profitable and convenient use of the canal if not replaced from other sources, and

Fourthly, that this water was already *devoted to a public use.*

The question was whether the Legislature would thus take property already devoted to a public use for the purpose of devoting it to another. He did not deny the constitutional power of the Legislature to do this, but contended that those who asked for it must make out that a case of extreme urgency and necessity existed. To this point he cited the opinion of the Supreme Court (23 Pickering's Reports 393) in the case of the Boston Water Power Co. *vs.* the Boston & Worcester R. R. The power of eminent domain was only to be exercised in an extreme case and upon the payment of a full equivalent for the property taken. The Committee ought therefore to inquire if it were proper to take the property of the canal against its will, when it was willing to give up this property upon reasonable terms.

The canal was incorporated in 1793 and established by a number of public spirited individuals. It was not completed for many years and it was longer still before it became at all profitable, no dividends having been made until the year 1819. Most of the original holders however persevered in the enterprise and the stock remained in their hands. It was from that time profitable until the construction of the Lowell Railroad which greatly diminished its value. It had always seemed to him a great mistake both on the part of the Commonwealth and that of the Railroad that no provision was made for compensating the canal for this injury. It was a road directly parallel to the course of the canal, having and intended to have a direct effect upon its business. It was a case where an existing franchise was directly affected by the grant of a new one. The principle was hurtful to the Railroad itself. The State of New York compels Railroad companies to compensate parallel turnpikes and canals for the injury done to their business. This however had not been the policy of Massachusetts, and the construction of the Railroad reduced the value of the canal one-third at once. The construction of the Nashua and Lowell Railroad soon after had a similar effect, and the extension of the road to Concord N. H. still farther injured the property. The Middlesex Canal did not come there to complain; but it was the duty of the Legislature to see whether farther injury should be inflicted upon it and to provide it all reasonable and just protection.

It was said that the Middlesex Canal stood here in the same position as any other party whose property was liable to be injured by the proposed work—for instance a mill owner—and must seek its remedies in the same way. But there were broad distinctions between the case of the canal and others.

First, the magnitude and value of the work. There had been discouraging circumstances in 1843 which had led the proprietors to underrate the value of the canal, and they then applied for leave to change the mode of using their property. But time had proved that they were then mistaken and that it was really profitable and worth while for them to carry on their canal as such. During the past year their net income had been $9000, (they had divided $8000 and reserved $1000) which would represent a property of $150,000.

Secondly: Their property was now held for a public use and it was important to the public that it should continue to be employed in that manner. Even in the year when they received no income, 6000 boats passed over the canal, and of course now that it was so profitable it was used by a still greater amount of navigation.

Thirdly: If the request of the canal were complied with all the water would be used in the most advantageous manner to all parties concerned. The mill owners would be as well off as they are now, and no party would suffer any unnecessary damage. If this proposal was not accepted the canal would be entirely crippled and the mill owners would have large claims for damages,—how large it was impossible to foresee. This seemed to be a strong reason to warrant the Legislature in putting into the act the provisions proposed.

What the canal asked was simply to be compensated for withdrawing all the water from the canal, and to be compensated for it either according to such bargain as it might make with the city, or according to the award of Commissioners.

If the canal were nearly worthless as was represented there would of course be very little for the city to pay. The less valuable it was the less expensive it would be for the city to pay this, and have the whole water now used in it to set up against the claims of the mill owners.

Only two objections which might be raised to this course on the part of the city occurred to him. The first was that the canal had not the right to dispose of the water in this way, because it held it for a particular public use, and that when that use ceased the property in it would revert to the mill owners. But where property had been under the authority of law taken for a public use, and paid for, it was competent afterwards to change that use. As if the Commonwealth should take land for an arsenal and pay for it, and afterwards change the building so as to use it for a hospital, or should sell the land, its property would be sufficient for either of these purposes. The full property of the land being acquired it carried with it all the incidents of property, among which was the right of transfer or sale. Where an *easement* only was taken, the right of property would cease when the use ceased, for the original property is only coextensive with use.

To apply these principles to the case of the canal—It had taken and paid for the right to divert the water of Concord River. It made no difference to the mill owners below to what use the water was converted. Suppose that the franchise should extend—as in fact it did in this case—to the double purpose of making a canal and running mills. The Corporation take Concord river and apply it to the construction of their Canal and the supply of their water power. They have a right to do so. They increase their mills; they are still in the right—they discontinue their canal in order to afford water to these mills;—they are still doing what they have a right to do, nothing that they may not do under a perpetual charter to divert the waters of Concord River. Their right is as perfect as that of a person holding property in fee.

Mr. Curtis in support of this doctrine referred to the case of Wellington petitioners *vs.* the town of Cambridge (16 Pickering 87) and that of the Water Power Co. *vs.* B. & W. R. R. (23 Pick. 360.)

He also referred to the act of the last session in favor of the Blackstone Canal, to show that the Legislature might change the use of the water rights, and the bill reported (by

Judge Strong) at the same Session in favor of the Middlesex Canal, to show *his* opinion of the validity of the doctrine.

In fact the canal held its present property not by its taking under the Charter, but as by a grant. It had no deed, but an undisputed possession for over forty years amounted to a grant in fee of the right to divert the waters of Concord River. He requested the Committee to consider seriously whether this was not a case where the rights of the Middlesex Canal ought to be protected and where some course ought to be devised so that it should not be driven to a jury to assess the damages done to it by the proposed work.

Mr. Curtis having but a few words more to say, the Committee adjourned to meet the same afternoon.

Twenty-second Session. *Wednesday, March 5th*, 1845.

Mr. Curtis closed his remarks on behalf of the Middlesex Canal, by referring to the proposal to supply the water of Concord River from other sources. The means of furnishing this supply had only been indefinitely alluded to and had only been shown to exist by evidence at second hand. Magog Pond, one of these sources already belonged to Mr. Whipple who might have used it to supply his mills for which water had been needed could it be advantageously applied to such a purpose. The other source which had been pointed out was in Hopkinton above the Saxonville Factory; and it was natural to suppose that if it were available for such a purpose it would have been already used for that factory which was in want of water and had supplied its deficient power with steam.

Wm. J. Hubbard, Esq. closed the case on behalf of the remonstrants.

He did not intend to go over the details of the evidence on this matter which would undoubtedly be weighed by the Committee. He wished to draw their attention only to some of the points in controversy. The object of the petition was one of great interest to Boston—both to the city as such, and to its inhabitants, who had a right to have such an object accomplished in the most prudent manner. It also concerned other towns and their inhabitants, who apprehended that their rights were about to be encroached upon, and that they should suffer damage for which no adequate compensation could be made. He appeared on behalf of those who had signed the remonstrance called that "of Joseph Tilden and others," who thought that if the project were executed in the manner proposed, it would involve a needlessly large expenditure of money, bring upon the city a heavy debt, and subject them and coming generations to an onerous taxation to pay the annual interest on the debt, which would not for many years, if ever, be met by the income from water rents.

The powers which the Mayor in his petition asked to have granted to the city were by no means simple. They were in fact, *first*, the power to take lands belonging to citizens of other towns without their consent, and against their will—to destroy their mill privileges—to divert streams from their natural courses—and as a necessary consequence, to render nearly valueless large amounts of property, the profitable improvement of which depended upon the continuance of the manufacturing establishments erected on those streams and privileges. *Secondly*, the power of taxation to raise the money necessary for these objects.

This last request was one made necessary by the fact that the power of the city as such did not extend to the building of an aqueduct. This was not a part of the intent of its Municipal Charter (Rev. Statutes ch. 15. sec. 12. *Willard vs. Newburyport*, 12 Pickering 227, *Stetson vs. Kempton*, 13 Mass. Rep. 272; *Spaulding vs. the Inhabitants of Lowell*, 23 Pick. 76.) Neither law nor usage made this an object which a town as such could undertake to effect. The size and importance of the city did not give it a greater right in this respect than the smallest municipal corporation. That a new power for the purposes of taxation was required had been allowed by the City Solicitor in a letter to the Mayor on this very subject. (City Doc. January 29, 1838.)

The City Government in asking the Legislature for such extensive powers,—the right of eminent domain and the right to raise money for a purpose not now authorized by law—ought to convince the Legislature that a plain and strong case of urgent necessity existed, requiring that such powers should be granted; and even if a very large majority of the voters in the city asked for these powers, the Legislature would not be the less bound to guard the rights and interests of the minority.

The petitioners were bound to make out four points, viz;—1st that there was not now an adequate supply of water in the city to meet its actual necessities; secondly, that these actual necessities required additional corporate powers for their supply; thirdly, that they required such extensive additional powers as were asked for; and fourthly, that the proposed plan was the best and wisest for the purpose for which it was designed. The ground that the votes of the petitioners were the best evidence of the want could not be sustained; if it were so, Legislative Committees might be discharged from most of their investigations. Neither was the vote of "the citizens of Boston in general meeting assembled" always to be considered evidence of the wisdom or necessity of what it recommended; as might be seen by votes of 1829 and 1830, urging by large majorities that either the State—or if not the State the City—should construct two railroads one from Boston to the Western line of the State and the other from Boston to Pawtucket. The Committee of the Legislature to whom the petition founded upon these votes was referred, reported that the petitioners have leave to withdraw, and that report was accepted, and this conclusion was a wise one, that the action of the citizens of Boston and the declaration of their wishes or opinions, was entitled to no more weight as evidence of the necessity or wisdom of any measure, than the actions or declarations of any other set of men, in regard to any object which they desired to accomplish.

Admitting that the rebutting evidence offered by the petitioners had proved that there was some want of water, it did not follow that the second proposition was made out, that new corporate powers were needed by the city in order to supply this want. On this point those whom he represented took this ground in their remonstrance:—

"Your Memorialists also represent, that while they admit that the wants of certain parts of the peninsular portion of the city require the introduction of a copious supply of pure soft water,—they feel a confident assurance that those wants can be adequately supplied by a private corporation, at a much smaller expenditure than it can be done by the city. And they have no doubt that if a charter should be granted with suitable provisions, the necessary funds would be speedily raised to construct an aqueduct, which with the one now in operation, will be amply adequate to supply the existing wants of the city and its increasing wants for many years to come. Your Memorialists therefore deem it an impolitic and wasteful expenditure of money to introduce a colossal aqueduct, whose magnificent provisions are to suffice for the city when its inhabitants shall number 300,000, when a comparatively small expenditure will furnish an aqueduct which, with the supply of water now enjoyed, will abundantly meet the wants of the city for half a century—leaving a distant posterity to make some provision for their own wants."

In support of the opinion that a private corporation was the proper resource to supply this want, he cited Mr. Quincy's report as Mayor, (June 13th, 1825,) and Mayor Armstrong's Report as Chairman of the Committee on this subject in 1836. Most cities which had foreign supplies of water,—for instance, London, Liverpool, Greenock and Glasgow,—were supplied by private corporations, and the remonstrants were of opinion that this mode of supply had decided advantages. They believed it could thus be done more economically than by the city—the city would incur no risk of loss—those who wanted water, would alone pay for it; and if it proved a profitable undertaking, the city would have the power to take it from the company by paying them a reasonable compensation; and if the city should decline taking it, the citizens would be safe against imposition or extortion on the part of the company, by the provision in their charter authorizing the Legislature to regulate the prices of water.

The next question was—all the rest being granted—were so large an expenditure and so great powers needed? In the words of some of the former petitioners, this work ought not to be undertaken until it was practicable, "consistently with prudence and reasonable economy." He did not think that the evidence showed that the *natural wants* of the citizens required so immense a supply. Much of the "want" spoken of was for the *artificial* wants for manufacturing purposes and the like, and for luxuries. If there were such a want, it was not one which had been long discovered, and the history of the action on the subject which had been appealed to, showed rather a disinclination to enter upon any such enterprise than the contrary.

Mr. Hubbard then recapitulated, with this view, the history of the various movements on this subject, since the organization of the city government, and then briefly summed up the evidence in the case, to show that it did not prove such a want as to require the supply asked for. He contended that the plan proposed was based upon a greatly exaggerated estimate of the amount of supply needed, both in respect to the nature of the wants for which provision ought to be made, and the amount of supply which would be needed to meet those wants. It did not look only to a supply of the present wants, but proposed that provision should be made immediately for the wants of the city half a century hence, when, according to the Commissioners, the population of the city, including South Boston and East Boston, would be 215,000; and this supply they thought should be 7,000,000 gallons. He thought that the proper course to be pursued was that suggested by Mayor Chapman in his testimony, which was similar to that recommended by the Water Committee of 1839, in the report made by Mayor Eliot, viz: to provide for existing wants and growing wants within a reasonable time, and by a plan which should be capable of enlargement, to meet the growing wants of the city in the distant future.

He should endeavor to establish that an adequate supply of good water might be procured at less expense than by the plan reported by the Commissioners, from nearer sources, (thus decreasing the risk,) and by a safe mode of construction, (iron pipes.) He should only direct the attention of the Committee to two plans. 1st. Taking Spot Pond as the principal source of supply, with Mystic Pond as a supplemental source when the increased want of the city should require it; and 2d, taking Charles River as the sole source of supply.

Mr. Hubbard went, in some detail, into the examination of the advantages of the several sources, citing the reports for analyses of the water, expense of construction, &c.; but before he completed his argument, the Committee adjourned to meet again the next morning.

TWENTY-FOURTH SESSION. *Friday, March* 7, 1845.

Mr. HUBBARD resumed his argument on behalf of the remonstrants, by reviewing the action of the City Government on this matter, in order to show that it had never expressed any deliberate opinion in behalf of the proposed measure.

An explanation with regard to some points of this review was made by Mr. Edward Brooks, of the Citizens' Committee.

Mr. Hubbard contended that the course of action during the past year, both of the citizens and the City Government, was characterized by haste and the want of such deliberation and investigation as the subject required, and that it afforded no sufficient evidence that the public necessity or the public interest required that authority should be granted to carry out the proposed plan. It had been suggested that the Committee might decide to report a bill in accordance with the wishes of the petitioners, and leave it to the city hereafter to determine whether it would avail itself of the authority given it to execute the proposed project. He urged that such a course would not be in accordance with established legislative usage, and that the Committee should not report a bill, unless the evidence submitted had been sufficient to satisfy their own judgments that the proposed measure was necessary and expedient, and that the interests of the city would be advanced by its adoption. He requested the Committee to consider whether they could adopt a wiser course than that taken by the Legislature of 1839, whose resolve on this subject, expressed the opinion that it had not sufficient evidence to enable it to decide upon the proper source and best mode of supply for the wants of the city. It did not seem to him that the petitioners had made out a sufficient case to call for the exercise of the powers the Legislature was asked to use. It was not reasonable to ask for a present supply for the wants of half a century hence, or for exaggerated demands of the present population. An adequate supply for all rational wants would be furnished by a private corporation, and then if that establishment should prove a profitable one, the city might take it into its own hands.

Mr. Hubbard closed by asking to be excused if the heat of argument had led him into too harsh censure of men or measures.

Richard Fletcher, Esq. closed the case on behalf of the petitioners. He said that the simple question submitted to the Committee was whether there should be a grant of the needful power to supply the City of Boston with pure and wholesome water. Although this question was so simple, however, and so easily stated, it was one of no ordinary importance. A question of deeper, or more serious interest was rarely submitted for legislative consideration and action. It did not relate to pecuniary speculation or enterprise, but to the comfort, health and lives of a large portion of the people of the Commonwealth. The want of pure and wholesome water was one that pressed not occasionally, or at intervals, but marred the comfort, and perilled the health and life of every living being, every hour and every minute. When a hundred thousand people, under the pressure of this want, come to the Legislature for aid and relief, it presented a subject which rose in importance far above the ordinary topics of legislative attention. It seemed to him that the remonstrants and their counsel had signally failed in their conceptions of the nature of this subject. It was not to be placed in the same list with applications for railroads. A great want, like this, for water, the natural demands for bread, water and vital air, were not to be treated as the factitious and artificial wants of society were; and most of the topics suggested, in reply to the question, ranged altogether below the real importance of the petition. The struggle to supply such a want was not to be baffled and defeated by professional skill and tactics, and objections to form and circumstance, or by speculations, plans and theories. Suppose that a famine were desolating the city, and a plan of relief had been agreed upon, as by general consent, what would be thought of the objection that it would provide too much bread, or from the wrong place? or that the carts and transportation would cost too much? And yet this was a wasting famine. If such a want existed as was alleged, it must be supplied. It was in its very nature a want that would seek relief; must and would find relief. It would not be baulked. That it did exist seemed manifest and undeniable; and that the people of this city had been struggling under this want for more than twenty years. As the population had increased, the want had increased, till it had now arrived at such a degree of urgency that it must and would have relief; it sought relief lawfully and properly, but it must and would be relieved.

The inability to obtain a sufficient supply of pure and wholesome water within its own limits, was by no means peculiar to the City of Boston. It had occurred to other cities in all ages, and the employment of sources of supply from abroad, with aqueducts connecting these with the city, commencing beyond the Christian Era, and coming down to our own time, existed all over the civilized world. In our own day and country, these works had been constructed in Philadelphia, New York, Richmond, and other places; and wherever they were, we found that at whatever cost or sacrifices, they had been built, and however many mistakes and delays had occurred in their construction, they were clung to by the people with such a force of attachment, that nothing would compel them to give them up. The Croton aqueduct in New York had approved itself to the most intelligent and the most wealthy inhabitants, and nothing would now induce them to part with its benefits.

That this necessity for a foreign supply of water would occur, might have been foreseen from the time of the settlement of the city, and it was amusing that the people of Boston, suffering under this great want, should be told that history showed that they were living in the midst of an abundant supply of pure water, and should be consoled by the statement that the original name of their territory meant "abounding in springs,"—a statement in itself apocryphal. The probable necessity of such a supply might have been seen from the settlement of the city, for there were many things incident to a crowded city, that precluded the possibility of procuring a sufficient quantity of pure water within its limits. What then must the inhabitants of Boston—parched as they were—show to their rulers to insure the grant of the powers asked for.

They must show: first, the existence of the want, and next, only, that the plan proposed was practicable and reasonable. He denied that they were bound to show anything else. They asked for a particular plan, and the Legislature must either grant that or not. They could not be compelled to show that this was the best possible plan, beyond a reasonable doubt, as if they were making out a criminal charge. The Legislature would go into no such inquiry. It would require it to be made to appear that the plan was practicable and reasonable, but it might well leave something to the discretion of the petitioners. The city might never get a supply of water if compelled to prove that one or another plan was the best possible plan. There was no pond or river as a source, no system of pipes or masonry as a means, to which some objection could not be found. These particulars and details must therefore be left to the discretion of the city. There was no objection to having the matter go back to the citizens. The act must be accepted by them and if they were satisfied with the source, the cost and the plan, and were willing to pay for the water in that way, who was to object? The Legislature? He did not think so, or that the Committee would think so. They would require that the plan should appear to be practicable and reasonable, and that was all.

First, as to the *want;* it must be shown to exist. It was admitted even by the remonstrants that it existed to some extent, but it was material that what that extent was should be somewhat fully defined and understood. He maintained that it was to a *great* extent, pressing and urgent. How were the wants of a community,—of a city or town,—to be ascertained? How was such a want as this of water to be discovered or proved? The opinions of individuals, themselves well supplied, and who had no particular means of knowing the wants of others could be of but little weight. The remonstrants had called before the Committee, several respectable individuals, all of whom had testified to the existence of a partial want; and he (Mr. F.) thought the weight of their testimony was that there was a necessity for procuring an additional supply from some source without the city. But this gave nothing but the general fact; the extent of the want was still not defined.

[At this point of the argument the Committee adjourned to meet in the afternoon of the same day.]

TWENTY-FIFTH SESSION. *Friday, March 7th*, 1845.

MR. FLETCHER *resumed:* The best and perhaps the only way to get at the real extent of this want was to look at the efforts made to relieve it. This was the way in which communities manifested their wants. In some countries the existence of a want like this would have been shown by riots and violence. Here we had the different course of resorting to petitions and to the ballot box. Exertions of this kind clearly showed the existence of a want, and their generality proved the generality of a want. The declarations of the citizens to their constituted authorities, accompanying their acts were a part of the *res gestae* and were stringent evidence in such a case. He therefore briefly reviewed the history of movements upon this subject.

The Jamaica Pond aqueduct was established in 1795 showing that there was a necessity to go out of the peninsula for its supply of water half a century ago. It had been said that no account had been made at this hearing of the existence of such a work. It had been referred to, but the evidence was sufficient to show that it was already used to the full extent of its powers of supply.

In 1816, Mr. Alger testified that he and others had taken some measures to introduce water into the city from Spot Pond —which showed that even at that early date this want was felt.

In 1825, we found the government of the city—now organized as such,—inquiring into the practicability, expense and expediency of introducing water from abroad. And that this was a movement of the government showed that it was a result of a general want and desire on the part of the whole city. Mr. Treadwell was appointed to make this examination and made his report the next year; wisely advocating an enlarged work that should be sufficient for future years, and should not be confined to the mere temporary want. Mr. Quincy as Chairman of the Water Committee urged further that the work should be done and done by the city as such.

In 1827, (February 1,) Mr. Odiorne made his proposal to supply the city with water, which was referred to a Committee who reported adversely on the 12th of November of the same year.

Some years then passed until 1832, in which year a Committee was appointed (January 9th,) of which the Chairman, Mayor Wells, reported, (December 31st,) that there was then "no difficulty in the way of carrying out *the favorite object* of introducing a supply of water for the general use of the inhabitants and the extinguishment of fire." He urged in that report the utility and practicability of the proposed scheme, referring to Mr. Treadwell's report as authority, and stated that after mature deliberation the Committee were satisfied that *the health as well as the convenience* of the citizens required that the work should be commenced in the succeeding year. This was in 1832; in 1833 another Committee was appointed, and in March the Mayor was directed to ask for authority from the Legislature to take land, &c., for such a work, substantially as in the present case. There was some delay, and there was no effective action; but in the fall of this year a petition (that of Warren Dutton and others) was presented to the City Government urging direct and speedy action. In this petition the subscribers said that they acted under a deep impression of the necessity of the proposed supply. They said that they deemed it superfluous to go into the details of the insufficiency or impurity of the water then in use. They spoke of it as a matter of general complaint, and said that it was their belief and that of the community, that if the city did not act promptly, the matter would be taken in hand by private corporations. Mr. Fletcher, read this petition with the names of its signers, remarking that they were highly competent judges and entitled to great respect, and that this paper showed that in their judgment the public mind was decided on having this done, and on having it done by the public authorities. A Committee was appointed upon this petition and upon their report the sum of $2000 was appropriated for a new Commission, and Mr. Loammi Baldwin was selected to make a further survey and examination of sources. When this Committee reported to the City Government the survey of Mr. Baldwin—a most thorough and capable engineer—they spoke of it as a " minute, full and valuable examination of the whole subject of introducing water, a subject of much interest to the citizens of Boston, which had been long and much discussed and investigated;" they said that the introduction of water from foreign sources was one of those improvements which must be sooner or later adopted in this as in other great cities; they believed that the report of Mr. Baldwin contained all the information which could be desired or obtained; they considered his examination as complete and had great confidence in his judgment; and therefore they said that they could see no reason to suppose that it would ever be necessary to make further surveys for this object. This was as far back as 1834.

In 1835 the petition of Dr. Warren and others urging immediate action was presented to the government, and in the fall of the same year (October 13,) the Mayor, Mr. Lyman, reported a resolution favorably to it, but the city did not act upon it at that time.

In 1836 the citizens rose more *en masse*, and we had the petition (presented January 18,) of Isaac Parker and four hundred and thirty-five others urging that the water was needed, that the cost of introducing it was yearly more expensive, and that measures ought to be taken for its introduction at the public expense or otherwise that very spring. Among the subscribers to this petition were Messrs. Isaac Parker, Cartwright & Balch.

In June of this year Mr. Eddy's report was made (and Mr. F. read from pages 25 and 26 as to the necessity of a supply.)

The same year (August 24,) the Mayor, Mr. Armstrong communicated to the City Council the resolutions adopted at a general meeting of the citizens at Faneuil Hall, advocating the measure, which was adopted by 2107 yeas and 136 nays.

In 1837 a new Commission was appointed to explore and report, consisting of Messrs. Treadwell, Hale and J. F. Baldwin. They reported November 23d, after using constant effort and large means of information. They were divided as to the source which was to be selected ; two of them being in favor of Spot Pond, and one in favor of Long Pond.

The Mayor's communication in 1838 recommended an application to the Legislature for owers to construct an aquduct. He stated the need of an abundant supply and the expediency of begining upon this work soon (page 4,) and expressed a firm opinion that it would pay for its interest and repairs, (page 5.) Hosts of petitions poured in urging immediate action—among which, since it was urged that that part of the city was well supplied he might notice that, from wards 11 and 12 which speaks of "feeling daily the want of pure water." There were also several remonstrances against the project, but none of them were based upon the absence of the want, but upon the bad times and the crippled and embarrassed state of business and property. The remonstrants then thought the time inauspicious, when prosperity returned they should be glad to join their fellow citizens in this work.

In 1838 the citizens held another public meeting on the subject, at which two questions were presented ; and these constant meetings and reports were conclusive evidence that the people had had an opportunity to understand this question. Two questions were submitted to it. On the first,—asking the voters if it were expedient for the city to provide a supply of soft water at the public expense, the vote was 2541 yeas and 1621 nays ; on the second : "Is it expedient to begin the work next year if leave be granted ?" the vote was 2507 yeas 1652 nays.

In 1839 the Commissioners made their supplemental report, Mr. Baldwin giving his reasons for differing from the others, and maintaining his opinion in favor of Long Pond. An application was made to the Legislature and a bill was reported ; but many remonstrances were brought in, and it was recommitted and lost for want of time. The whole evidence was heard on the part of the remonstrants but there was not time to finish the case on the part of the petitioners. In his communication of April 29th, of that year (City Documents of 1839, No. 19,) Mayor Eliot gave a detailed account of this examination. He then argued that it was not necessary for the petitioners to go into any such proof. He urged that it was enough to show that it would contribute to the health, comfort and temperance of the people. As to the financial question he calculated that even if the work cost $4,500,000, its benefit to the city would be worth the interest on that sum, while he did not doubt that the water-rents would pay off the loan.

After this commenced Mr. Chapman's administration, which was emphatically a reign of economy. In 1840 and 1841, a Committee was appointed, as usual, but no progress was made with this matter. In 1842 nothing at all was done. In 1843, Mr. Odiorne proposed his plan for supplying water from Spot Pond, by a private corporation, and a Committee of the City Government reported favorably to it, but it was not finally adopted.

This brought us to the year 1844. There was pending before the Legislature in 1843, the plan of Mr. Eddy to bring a supply of water from the Middlesex Canal, and that of Mr. Odiorne for Spot Pond. The public opinion was strong and decided, that this supply ought not to be in the hands of individuals or private corporations, but should be brought in by public expense. Seeing these proceedings pending, a petition was presented, (Pet. of John Redman and others,) asking the City Government to call a meeting of citizens in Faneuil Hall, to consider the subject. This was not done at that time, but a subsequent petition (that of Walter Channing and others) was granted, the meeting was called and adjourned from day to day, and the whole subject was thoroughly discussed, from September to December. These meetings were not large, but they were open ; every one might go, and every one might speak who chose, and the result was that there was a strong vote in favor of introducing the water at the city expense, and requesting the City Government to apply for leave from the Legislature, as soon as might be. At the time of the fall elections, the most favorable opportunity for obtaining a full expression of the opinion of the voters, propositions were submitted, the result of which had been stated there. It was the largest majority ever given on any occasion by the votes of the citizens. Eight-ninths were in favor of bringing in the water at the public expense, and the vote was three to one in favor of Long Pond as a source. Unquestionably this was the true sense of the people of Boston, and had been for years. This decisive vote would prevent an attempt to accomplish the object by individual enterprise ; and public opinion had now so settled down upon Long Pond, as the proper source, that if the present petition were denied, all would be thrown into confusion, and it would be impossible to concentrate action upon any other plan of supply.

Such was the evidence of the want of water, resulting from the votes and measures of the inhabitants of Boston during a long period of time. In support of this the petitioners had introduced that of a few individuals, and they would have brought more but for the intimation of the Committee that more were unnecessary,—persons familiar with the city and its wants, who had fully corroborated this. [Mr. F. here briefly recapitulated the evidence.] The result of all this was that there was a great and general, and constantly increasing want of water in the city ; a want that must be supplied ; not partial and indefinite, but a want felt by all persons at all times. If it were smaller, the Legislature should grant the supply asked for. People ought not to be put on short allowance of this necessary of life, but from dire necessity. It was no answer to tell them that they could possibly *get along* as they were, and that they would not actually perish without a further supply. They should have it freely and liberally, and without stint. A kind Providence had made ample provisions for all ; and all should have it in abundance. It should be seen all about us—in fountains before the State House, on the people's Common, in the public squares, it should be like the air we breathe, everywhere, in doors and out of doors, ministering to the comfort, cleanliness and health of every living thing. If the people, now limited to a scanty supply of impure water, could but once know the blessedness of an abundant supply of pure water,—of the little band who now oppose this measure, there could not a man be found, who would undertake to utter a single word against it,—even by attorney.

Mr. Fletcher then passed to the objections that had been made to granting the prayer of the petition. It had been said that the people did not understand the propositions submitted to them, and some evidence had been introduced that individuals had changed their minds since the vote. This cry that the people " did not understand" was one which was a reproach to the institutions under which we live, founded on the principle that the people do understand their own affairs, and act understandingly. The votes upon these propositions showed that the people did understand them, because there was perfect consistency in those on the several propositions. The vote of South Boston, the best supplied ward, was against the plan. How did this happen if the people did not understand ? In fact this was the common complaint of a defeated party. The man who loses his case is sure that the jury didn't understand it, and that the judge didn't understand it ; and if that Committee should report against the remonstrants, the next cry that we should hear would be that the Committee didn't understand !

Then it seemed to be implied that this was an excited movement, and by people who would not have to pay if the work were carried on. If this were so, and a line of division had been drawn between the rich and the poor, it must have been that the rich were to blame, and the possessors of property had been unfaithful to their trust. This division could never be until the rich had forfeited their natural and rightful influence, by neglecting the duties which attached to their position. But it was not so. The little book of amounts of taxes which the remonstrants had put into the case, would prove that the wealth of the city was arrayed in favor of the measure. Wards seven and four, the two richest wards, had given strong and decided votes in its favor. Most of the large tax payers were in favor of it, and with the noble public spirit which eminently characterised the men of wealth of the city, had advocated this project, not as an advantage merely to themselves, but to all. Some few individuals,—few compared to the whole number,—held different views and opinions with regard to the measure. He could only say to these gentlemen, that they had fallen into a great error; and that the time would assuredly come when no man would take either pride or pleasure in the reflection that he opposed the introduction of water into the City of Boston.

It was next said that the city had no power to tax for this purpose. Undoubtedly the jurisdiction of the city was limited, and there were cases in which towns had levied taxes beyond their powers, and the payment of such taxes had been successfully resisted. But a town might raise money to pay a fire department, and buy fire engines, (19 Pick. 488.) So it might build a market house. The tax levied to build the market house in Lowell was contested by a tax payer, and the court held that the city had power to build it, and to raise money for the purpose. To provide water for its inhabitants, was certainly as much the province of a city, as to provide a market house. But if there were any doubt upon this point, the Legislature could undoubtedly give the power. The question was nothing like that to which it had been compared, of asking for leave to tax for the purpose of investing the money in a railroad. He apprehended that the Legislature would find no objection to granting the requisite power. It had been said that there was no precedent for authorizing the taking of private property for such a purpose. But there were repeated instances where towns and other corporations had been authorized to take land, and he could see no difference between that and the authority to take water. But there were two instances where leave had been granted to take water also. That of the aqueduct to supply the Hospital at Worcester, and the recent act incorporating the Boston Hydraulic Company. He had no doubt that this was one of the cases of public exigency, where the Legislature might exercise the right of eminent domain. If there were any case for it, it was this, and no objection to it came from any person whose property would be directly taken, on the whole line from the fountain head to the city.

This concluded what he had to say upon the first point to be made out, and he thought that the Committee would feel satisfied that there was a great, pressing and urgent want, for the whole city.

The next and only question remaining was: Was the plan proposed for supplying this want practicable and reasonable? If it were, he thought that the petitioners had established all that was necessary for their case. To show that the plan had not been adopted without consideration, Mr. F. reviewed the history of the proceedings since the survey of Loammi Baldwin, in 1834, to show that Long Pond had not been selected as a source without sufficient investigation and deliberation. The citizens had now adopted it by a vote of three to one. If this was not a reasonable and practicable plan which they had thus settled down upon, with such an approach to unanimity, after the exertions of so many years, it was hard to see how one was to be found. To refuse the powers now granted, would be to defeat the object entirely. Why then should the city not have the needful power?

There were objections made to this plan of course. There never was a public improvement made without opposition, and the most successful and useful works had often met with the most opposition. Such was the case with the N. Y. Canal, the project for the Worcester Railroad, and the Western; and perhaps the greatest wonder was in this case, that the number of opponents was so small. So great an unanimity in favor of this plan was almost conclusive at least of the generality of the want.

The opponents might be divided into two classes; the remonstrants from Boston itself, and those out of Boston, who were apprehensive that their property would be injured by the proposed work. With regard to each class, he should content himself with some general remarks, without answering their objections in detail.

The several objections made by the Boston remonstrants all went to the whole object, for it was clear that the plan proposed must be adopted or none, and therefore though these might seem to be mere objections of form, they went necessarily to defeat the whole scheme. First, it was said that the proposed supply was too large. But the estimate had been made with care, and had ripened up to its present quantity, by the increasing information of successive years. It had been urged with much detail that the population had been set too high; yet nothing could be plain-er than that Boston was hereafter to be a large and extensive city. It was at this moment increasing very rapidly. It had doubled in population in the last twenty years, had now nearly 120,000 inhabitants, and was donbtless now increasing at a rate which would double that number again in less than twenty years. In that time it was more than probable it would have the whole 215,000 estimated for ; and would it be wise to construct such a work so as to satisfy the wants of less than twenty years ?

Next, it was said that the expense would be greater than was supposed. Could not the estimates of Messrs. Hale, Jackson and Baldwin be depended upon ? They had made them with great care and deliberation ; had gone to New York, and there and elsewhere taken great pains to possess themselves of all available and proper means of forming safe opinions ; they had put up the estimates largely, in order to make allowances for unexpected increase in prices or the like ; had estimated the damages at fourfold what they considered the real injury that would be caused ; and they now testified that they believed the estimates to be amply sufficient. Could there then be any fact in this objection ?

But he would take a simple test, which was quite satisfactory to his own mind. The New York aqueduct had cost $11,000,000, deducting the accumulated interest, which made it $13,000,000. That aqueduct was twice the length of the one proposed here, which might therefore be built in the same way for five and a half millions. But this structure was less than half the size being intended to bring less than half the amount of water. This would reduce the cost to two and three-fourths millions. And if then we took the difference between the country through which the two structures were carried, and recollected that there had been large over expenditures in New York from mistakes of constructions that could now be avoided, and that their damages for passing through villages and over valuable land were necessarily much greater than ours could be, it seemed to be almost matter of demonstration that the estimate of our commissioners was too high rather than too low.

Then is was said that the proposed structure was not sufficient ; that we ought to have iron pipes ; that the city ought to have employed the engineers of the Croton work—and this with some inconsistency when it had been so much urged that those engineers made such very unsatisfactory estimates of the cost of their own structure ;—and that we had not deliberated long enough, that they began in New York in 1799. That long delay in New York it seemed only resulted in error. We hoped that we had got the truth partly through that experience. Our Commissioners had had the advantage of what was known by the engineers and men of science who built that work, and they were satisfied of the sufficiency of the structure proposed. Where was the evidence that could control this of the Commissioners upon this point? He need not go into details, for the Committee would certainly not undertake to decide whether this were the best and cheapest plan or not. It was only necessary to show that due care had been taken, and that a reasonable and practicable plan had been arrived at. After all, the details of this report were not conclusive, any necessary changes in the practical execution of the work could be made when the time arrived for its construction.

Another objection was that the water ought to be brought from another source. To this the only necessary answer was that we had decided upon this. If we had taken any other it would have been equally objected that it was not the right one. When the city asked for Spot Pond the same objection was made. As to Spot Pond he hoped the Committee would read Mr. Baldwin's report. The fact was that the day of Spot Pond had gone by. Those who advocated it were personally interested in it. Private companies had been got up to speculate upon it, and although he was willing that they should make money in any honest way, the people of Boston did'nt wish to have that money made out of their necessities.

Next it was said that this work ought to be done by private companies. Now the large mass of the population of the city entertained a different opinion. The work would have been done long since by private companies if the people had not been so determined to do it themselves, that those companies were afraid to risk coming into competition with the city. Every where in this country where such supplies had fallen into the hands of private companies it had been a source of disappointment and regret. A parliamentary examination—to a copy of which Mr. F. referred the Committee—had shown that in London great trouble had arisen from this cause. They had there thought to avoid the miseries and evils of permitting a monopoly of water by establishing a number of companies, thinking that competition would reduce the prices. But these companies combined together, each took a particular section of the city, and raised the prices by agreement. The monopoly was worse than before, and one witness said that he had been afraid to attend the commission until compelled, for fear that the company would stop his supply of water. [Mr. Fletcher then read extracts from several reports of Mayor Eliot, strongly urging the advantage of having the aqueduct constructed by the city instead of by individuals or private corporations.]

The objection of the inhabitants of East Boston and proprietors of land there was founded upon a false principle. It was not the principle of social life and the municipal compact, without which we could have neither streets, school-houses, fire apparatus or any of the like results of civilized combination of means. In such a community what was for the benefit of one was for the benefit of all.

[At this stage of Mr. Fletcher's argument the Committee adjourned to the next day.]

LAST SESSION. *Saturday Morning, March* 8, 1845.

MR. BARTLETT, at the request of Mr. Hubbard, put in the remonstrance of the Jamaica Pond Aqueduct Company.

MR. FLETCHER resumed his argument :—

The next class of remonstrants were those out of the city. And first was the town of Framingham. It was not directly concerned as supposing that any of its property would be actually destroyed, but looked to the contingent injury it expected from the destruction of two factories. But those two factories would not be destroyed. Mr. Knight who owned one of them was not a remonstrant, his property was valuable to him but he knew how to make good the loss of his water power by taking steam instead, and whatever expense he might be caused, the city would have to remunerate. The town of Framingham would receive no injury. Mr. Knight was even now building a new factory which showed that he did not expect to be disturbed. He undoubtedly expected to be paid for all his actual damage. Then they spoke as if Saxonville was to be destroyed. But the water of Long Pond contributed nothing to Saxonville. Its outlet was some distance below. To be sure the city had asked for the waters of Sudbury River and the adjacent waters. But there was no expectation of wanting Sudbury River for half a century to come if ever. And when they were wanted it would only be the surplus that was required, taking it when high and retaining it in reservoirs for the dry season. The aqueduct could never affect Saxonville. Here was an end of the evils of Framingham. They were wholly groundless and imaginary. Mr. Knight had no such ideas nor the proprietors of the factories on Sudbury River.

How did the case of Middlesex Canal stand ? Was it to be destroyed or even much injured ? A little more than a year ago its proprietors had said, and put it in writing in their petition to the Legislature, that the Middlesex Canal was no longer of any use to the public or of any value to the proprietors, and they wished to supply it to the city of Boston. But now that the City of Boston wanted Long Pond the value of the canal was much increased, and its prospective value was greater still. The hearts of its proprietors were cheered and they were indulging in golden prospects. He was glad of this sudden and favorable change, and he was very glad that these apparently fine prospects would not be at all affected by the introduction of water from Long Pond. It appeared that the Commissioners had fully understood the case of the canal and had provided for it, and had estimated the expense of it. Nobody had undertaken to show that the means that they would use to prevent injury to it would not be sufficient.

As to the Concord River mills ; as the Middlesex Canal had the first claim to the water, if that were supplied the mills would be supplied also, and it appeared that the Commissioners had taken this into account.

As to the Jamaica Pond aqueduct, the city had no disposition to injure it. A part of its plan was to make a proper arrangement with that company, to buy it if it should be thought best, and at any rate make it available as far as possible.

These were all the objections made to this particular source, and it appeared as if there were fewer objections to Long Pond than there could be to any other source, and yet the longer the delay should be, the greater would be the damage the introduction of its water would cause. It was said by some that further inquiry was necessary ; but if the powers asked were granted, the subject would go back for the consideration of the citizens, and if there were any reason to believe that new light could be obtained upon the subject, there would be abundant opportunity to make all the inquiry needed.

There was another point that had been alluded to, and that was the expense to the city, and it was objected that it would run the city in debt. Those who moved in this matter were no friends to incurring either public or private debt, but the reasons in favor of this measure seemed to entirely outweigh the objection here. The city might suffer more by a single fire breaking out in its centre, than the whole cost of this work would be. He did not intend to go into the particulars, but in several of the reports of Mr. Eliot, as Mayor, there were careful calculations on the subject, which resulted in the statement that the city would be repaid for the whole outlay, even if it received nothing for the use of the water ; that if the water were furnished to the citizens *free*, the other advantages to the city, as such, would repay the expense. But it was not proposed that the water should be free. The citizens had shown great prudence, moderation and discretion, upon the subject. The people wanted this supply, but they did not want or desire to have it free. If they had come and demanded that it should be brought to them without charge, it would have looked as if there were a design to supply the poor at the expense of the wealthy. But they did not ask this. In all these public meetings nobody maintained that the water ought to come free of expense. On the contrary, the people had gone throughout on the principle that its use should be paid for. Taking then into consideration all the other advantages, was there any reason to fear that injury would result to the city? Was there any such apparent and palpable injury as to induce the Legislature to overrule the discretion and judgment of the city as to the propriety of incurring a debt to supply this great and pressing want. Here were over a hundred thousand people knocking at their door, and for themselves, and in behalf of those who were to come after them, praying for the boon of pure water, and were there any reasons why this simple prayer should not be granted?

Mr. Adams, of Framingham, made a few remarks, urging that a clause should be put into the bill, if any were reported, providing for a payment for any consequential damages that might occur to that town; and the hearing was closed, and the Committee adjourned.

At a subsequent day the Committee made the following Report, accompanied by a Bill.

COMMONWEALTH OF MASSACHUSETTS.

In Senate, March 13, 1845.

The Joint Special Committee, to which was referred the petition of the City of Boston, and also, the Memorial of Edward Brooks and others in aid of the same, praying for authority to introduce into Boston, pure, soft water, from Long Pond, in the towns of Framingham, Natick and Wayland, and the sources adjacent thereto, having attended to the duties of their appointment, respectfully

REPORT:

That, immediately, upon their organization, the petitioners were summoned before the Committee, and directed to give notice of the pendency of their petition to all towns, corporations, and persons, known, or supposed to have any interest in the matter of said petition. Said order of notice was made returnable, January the thirtieth, and by the endorsement thereon, appeared to have been duly served. The next day, the Committee met the petitioners and remonstrants and arranged the order of proceeding.

The city appeared by its solicitor, Mr. Pickering, and Messrs. Warren and Fletcher.

The remonstrants represented various interests and somewhat conflicting. Joseph Tilden and others appeared by W. J. Hubbard.

C. Cartwright and others by Derby and Fuller; Spot Pond Corporation by Mr. S. Bartlett; Middlesex Canal by Mr. B. R. Curtis; East Boston by Mr. D. S. Greenough; Concord River Mills by O. W. Whipple; Framingham by Messrs. Adams and Train. Sundry other remonstrances and memorials were referred to your Committee, urging various objections to the granting the prayer of the petition. The whole number of remonstrants resident in the city was about 1,300.

Your Committee entered upon this investigation, strongly impressed with the magnitude of the object, and with the great, and serious interests involved in its prosecution. From the day of the opening, to the close of the case, your Committee has devoted itself, faithfully, to the consideration of the subject referred. Twenty-five public hearings have been patiently endured, endeavoring to ascertain the true merits of the petitioners' prayer. A latitude of inquiry, much broader than is allowed by courts of justice, has been permitted, in the hope of eliciting the whole truth. The Committee are happy to say, that after much deliberation and interchange of opinion, they are unanimous in the results and conclusions, to which they have arrived.

The simple question, divested of all collateral issues, to be considered by the Legislature, is, 'Is it expedient to confer on the City of Boston, the necessary power, to introduce among her citizens, pure and wholesome water? The question regards not the purposes of speculation, nor the profitable investment of capital, nor the advancement of private enterprise, but looks, merely, to the health, comfort, security and prosperity of the city. If it shall appear, that there is a great and urgent want of this necessary of life, this element of health, cleanliness and comfort, and that the want can be supplied at reasonable cost, who would withhold the requisite power? The petitioners ask to be empowered to expend their own money, for their own comfort, without inflicting irreparable injuries upon their neighbors. What ought they to show, to entitle them to this grant of power? It seems to your Committee, that they should be required to show, in the first place, a great and increasing want of pure water in the city, and, in the second place, a practicable and reasonable plan of supplying that want. If they succeed in making out these two points to the satisfaction of the General Court, your Committee are unable to perceive any good reason for denying the prayer of the petition.

What is the present and prospective want of pure, soft water in the City of Boston? This want was attempted to be shown to your Committee, both by oral and documentary evidence. It appeared, that throughout the peninsula generally, wells could be obtained, furnishing a palatable and tolerably pure water, though, on chemical analysis, it is found to contain considerable quantities of saline and earthy substances. The water of these wells is chiefly relied on for drink and the preparation of food, but on account of its hardness, is unfit for washing. In the lower parts of the city, and particularly, the extensive portions of it, reclaimed from the sea, wells can be obtained, only, by sinking them to a great depth, (some are as deep as 140 feet,) and when obtained, the water is of inferior quality.

For all the purposes of washing, reliance is upon rain water, collected in cisterns from the roofs of buildings. This supply is of course liable to a great degree of uncertainty, and for those families, which are not provided with rain water cisterns, the supply is either entirely insufficient, or extremely precarious. The witnesses, as well as the various reports offered in evidence, represent that the ordinary supply of water of both those descriptions, is becoming from year to year, with the increase of population, both more inadequate in quantity, and more impure. The greater accumulation of animal and other impure substances, through which the water supplied from the heavens, must filtrate, for the supply of the springs, and the narrower span to which this filtration is confined, necessarily, deteriorates the character of the well water, and the great quantity of coal which is consumed for domestic and other purposes, the smoke and cinders of which settle on the roofs of buildings in all parts of the city, tends to give a sooty color, taste and odor to the water of the cisterns. It is apparent from this statement, that those families only, who are supplied with wells and rain water cisterns, are possessed of such a supply of water as is deemed necessary for domestic purposes.

The supply of water for other than domestic purposes, such as the extinguishing of fires, the supply of steam engines, baths, the purifying of drains and sewers, and the cleansing of the streets, is still more inadequate. The chief reliance for the extinguishment of fires is upon reservoirs, provided in various parts of the city, the supply of which is found to be entirely insufficient. The fires in Dover street and at the corner of School and Washington streets were referred to, as frightful instances of the destitution of water.

The Boston Aqueduct is the only remaining means of supply. This corporation brings into the city an excellent water from Jamaica Pond, but the source is at so low a level, that the water can be carried to only a limited portion of the city. Though a most valuable resource to those inhabitants, who can avail themselves of it, it is entirely inaccessible to far the greater portion. It was also shown to be entirely unsafe as a reliance in the case of fire, even in parts of the city to which it is introduced.

The remonstrants admit the existence of a partial want of water in certain portions of the city, but deny that it is general or urgent. They profess their willingness that the want should be supplied, but object to the city's embarking in the enterprise. They say it comes fairly within the reach of private or corporate enterprise, and that the want is individual and not collective, and that it ought, therefore, to be supplied at the cost of those who are in need. They object entirely, to the imposition of taxes upon that portion of the citizens who are already supplied, or who object to the proposed mode of supply. They contend that the higher portions of the city proper, and South and East Boston are amply supplied, but they freely concede that the lower levels of the city, especially the reclaimed lands, are poorly supplied. They endeavored to show that every body south of Essex and Boylston streets might, if they would, be well supplied by the water of Jamaica Pond. The evidence however failed, fully to sustain this position. It was testified by the Superintendent of that

Aqueduct, that it could supply that portion of the city 'tolerably well,' yet he admitted, that there were frequent failures, that the water was distributed to the utmost capacity of the fountain, that a reservoir, to secure a quantity against a time of need, was necessary to insure an adequate supply. Beyond this limit it was admitted to be an unreliable source.

It was proved to your Committee that Beacon, Copp's and Fort Hills were very well supplied with well water. Even these favored portions of the city are dependant upon rain water for washing and other purposes, whenever soft water is preferable to hard. The best built parts of the city are generally supplied by means of wells, cisterns and reservoirs for the filtration of rain water. But in many populous portions of the city, large numbers of houses are destitute of one or both of these means of supply. It was also proved that wells which had heretofore afforded an abundant supply, had recently become worthless; other wells in the vicinity having been sunk below the level, on which they rested.

The long acknowledged and generally pervading want of water, was attempted to be shown by certain acts of the City Government, and the circumstances therewith connected. It appeared that, during the last twenty years, this subject, the want of pure, soft water, had, from time to time, been brought into public discussion, in a great variety of ways. The expediency of providing a supply has frequently occupied the attention of the City Council. The city authorities have constituted several commissions for the purpose of ascertaining the best source, or sources of supply. Their reports, embodying a fund of information on this subject, are before the people. It is hardly supposable that any eligible source has escaped the attention of the Commissioners, and remains yet, to be discovered. The city authorities, therefore, are as well qualified to act on this great subject now, as they ever can be.

As early as 1795, the Boston Aqueduct Company was incorporated for the purpose of bringing into the city, the water of Jamaica Pond, in Roxbury, thus declaring there was a natural deficiency of soft water in the city. In 1816, Cyrus Alger and others, contemplated bringing in water from Spot Pond in Stoneham, proving both the existence of a want, and the inadequacy of the supply by the Boston Aqueduct Company. In May, 1825, a commission was constituted by the City Government, to make explorations and surveys, and inquire into the practicability and expense of introducing soft water into the city. Mr. Treadwell the Commissioner, says, "there can be no question concerning the practicability or expediency of bringing in pure, soft water, and that it ought to be done by the city." In 1826, a Committee of the Common Council was charged with this subject. In 1827, the proprietors of Spot Pond made proposals to the City Government to supply the city with water. The proposals were not accepted, on the ground that it ought to be done by the city, at its proper cost and charge. In 1832, Mr. Wells being Mayor, the subject underwent a new and thorough examination. He reports "that the health as well as the convenience of the citizens, requires the work to be commenced the ensuing year." In 1833, in March, the Mayor was directed, in behalf of the City Government, to petition the Legislature then in session, for a grant of the requisite power to bring in water, but so much of the session had passed that the necessary preliminaries, orders of notice, &c., could not be properly made,—the petition was therefore referred to the next General Court. In December, 1833, the requisite notices were given, agreeably to the statutes, that the matter would be pursued at the coming session. This same year, Col. Loammi Baldwin, by appointment of the city authorities, made a minute, full and valuable survey and report, of the whole matter. He speaks of Long Pond as an available and proper source of supply, though he does not give that the exclusive preference. In 1835, Dr. Warren and others memorialized the City Government on the subject. In 1836, a town meeting, holden for the purpose, voted as to the expediency of introducing pure water at the cost of the city, as follows—yeas, 2,107; nays,

136. Robert H. Eddy, a well known engineer of this city, in a report on this subject, calls the well water *bad*, and the rain water totally unfit for use. In 1837, Messrs. Hale, Treadwell and Baldwin, were appointed Commissioners to make surveys and estimates, &c., and report the best source of supply. They reported that they had examined all the sources of supply which they deemed worthy of attention, and selected three of those sources of supply, as entitled to preference over all others. Long Pond they consider an adequate and available source. Charles River was another, and Spot Pond and Mystic Pond the other. A majority of the board recommended the last named source as the most expedient. Application was made to the Legislature for a grant of power to carry into effect their recommendation, but for want of time, no bill was passed. The estimate of needful supply was based upon the population of the city at that time being 80,000, with a prospective increase to 120,000. In consequence of the depressed state of business, and the indisposition of the citizens to incur heavy expenditures, the application was not renewed at the next session of the General Court. During the mayoralty of Mr. Eliot, the water question received unusual attention. In one of his messages he speaks decidedly of the great and growing want of water, and urges upon the City Government the adoption of measures for its immediate introduction. He considers it the interest as well as the duty of the City Government to undertake this supply, on the city's account, however easily it might be supplied by private corporations. The benefits that would accrue to the city from proprietorship of the works, from the use of the water in cleansing the streets, in aiding the fire department, and from appropriations to other useful public purposes, he thinks, should determine the citizens forever against a private supply. During this year, at a town meeting in Faneuil Hall, on the question, "Is it expedient for the city to acquire a supply of pure water at its own expense?" the votes were, yeas 2,541—nays 1,621, and on the question, "Is it expedient to com-

mence the work the ensuing year?" the yeas were 2,507—nays, 1,652. In 1839, this whole matter underwent an elaborate examination of a Committee of the Legislature, who concluded their labors by reporting a resolve authorizing the Governor to appoint Commissioners, &c. During the three years Mr. Chapman was mayor, in consequence of the depressed condition of affairs and the uncertain prospects for the future, this question was permitted to rest. In 1844, the proprietors of Middlesex Canal petitioned the Legislature for power to sell to the City of Boston, a portion of the waters of their canal. George Odiorne and others, in 1843, obtained an act of incorporation to bring in the water of Spot Pond. In July 1844, Dr. Channing and others applied to the City Government for a town meeting in Faneuil Hall, for the purpose of discussing the necessity and expediency of introducing into the city, a full and ample supply of pure water. The meeting was organized by the appointment of the Mayor as Chairman, and the City Clerk as Secretary. The meeting was adjourned, from time to time, without being fully attended, to the day of the city election. On that day the following propositions were submitted to the voters in their respective wards:

First proposition.—Are you in favor of procuring a supply of water for the inhabitants of the city of Boston, to be brought, at the expense of the City, from Long Pond in Natick and Framingham, or from any of the sources adjacent thereto, on the condition that those of the inhabitants who may elect to take and use the same, shall be required to pay for the water such reasonable tax as shall hereafter be fixed and established by a Board of Water Commissioners that shall be created?

ANSWER, *Yeas*, 6,260
Nays, 2,204

Second proposition. Do you hereby vote to instruct the City Council to apply to the Legislature, in behalf of the city, for the grant of a suitable charter to carry into effect the object expressed in the first proposition?

And do you hereby vote to instruct the senators and representatives elect, of the City of Boston, to exert their influence, at the ensuing session of the Legislature, to obtain a just and liberal charter for the object, as above set forth?

Answer. *Yeas*, 6,252
Nays, 2,207

Third proposition.—Are you in favor of procuring a supply of water for the inhabitants of the City of Boston, to be brought, at the expense of the city, from any sources which may hereafter be decided by the City Council to be the best, on condition that those of the inhabitants who may elect to take and use the same, shall be required to pay for the water such reasonable tax as shall hereafter be fixed and established by a Board of Water Commissioners that shall be created?

Answer. *Yeas*, 1,206
Nays, 7,081

Fourth proposition.—Do you hereby vote to advise the City Council to apply to the Legislature in behalf of the city, for the grant of a suitable charter to carry into effect the object expressed in the third proposition? and do you hereby vote to instruct the Senators and Representatives elect, of the City of Boston, to exert their influence at the ensuing session of the Legislature, to obtain a just and liberal charter for the object as above set forth?

Answer. *Yeas*, 1,194
Nays, 7,144

Such an overwhelming majority of votes, if understandingly given, cannot be regarded, under the circumstances, otherwise than as very convincing, not to say conclusive, evidence of a deep felt and generally pervading want of water. It is evidence, also, of a settled determination, on the part of the citizens, that when this work is done it shall be done by the city at its own expense.

The remonstrants attempt to impeach this vote, and say that the voters did not rightly understand the force and effect of the several propositions. It is not impossible that voters may, sometimes, be surprised or cajoled into casting their votes against their wishes and intentions, but how this could have happened to any material extent, under the peculiar circumstances of this case, passeth the understanding of your Committee. They allege, further, that the vote of the city council was not according to the oaths and convictions of the members, but was forced upon them by the might of popular opinion. Certain aldermen were put upon the stand, who sustained, by their testimony, this view of the subject, so far as it applied to themselves. But this, instead of weakening the just form of the popular vote, strengthens it, inasmuch as it shows aldermen, presumed to be conversant with city affairs and opinions, surrendering their preconceived notions to its influence and leaving themselves to its power. It is manifest that these gentlemen, at the time, considered this vote as pretty decisive evidence of public opinion.

Preliminary to the primary meetings of the citizens, and the action of the City Council, above referred to, Messrs. Jackson, Hale and Baldwin were appointed Commissioners to examine and report upon the project, previously recommended, of introducing the waters of Long Pond. These Commissioners assumed, as the basis of their report, the expediency of introducing such a quantity of water as will be sufficient for the supply of the city for a long time to come, on the supposition that there will be a continued increase of population. According to their computation there has been, already, an increase of thirty thousand inhabitants since the date of their report referred to.

The increased supply demanded by this increase of population, if procured by means of pumping, will require a greater expense, according to their mode of calculation, than to obtain the same, or a greater supply, in the mode which they propose from Long Pond.

Is the plan proposed practicable, sufficient to supply the want, and reasonable as to cost? It will not be expected of the Committee to pronounce judgment, *ex cathedra*, upon the proposed structure, either as to its durability or cost. All that they can do is to report the opinions of competent engineers, who have examined the subject, and subjected it to the test of science and experience. The Commissioners, who reported the plan, express themselves undoubtingly as to the durability of the structure, and their estimates of the cost of construction. Two of these gentlemen have testified before your Committee, and strongly defend the calculations and doctrines of their report. We can safely say that we see no good reason for distrusting their opinions.

As to the sufficiency, permanency and purity of the source recommended, no serious question was made before your Committee. The water of Long Pond, though not as pure as that of Spot or Jamaica Ponds, was conceded to be as good as most pond or river water. Chemical tests show it to be as free from impurities as other water in the vicinity, and as unexceptionable on this account. No serious objection was, therefore, made as to the quality of the water.

The Commissioners recommend the construction of works, that will supply, daily, 7,000,000 gallons of water. This estimate is founded on the assumption, that provision should should be made for a population, that may amount, hereafter, to 250,000. The estimate of the quantity required for such a population, is founded on the statement given in one of the reports of the Philadelphia Water Works, of the quantity demanded, in proportion to the number of inhabitants, for the supply of that city. The quantity allowed for each person is twenty-eight gallons daily. The Commissioners are of opinion, that a less quantity than is here proposed, will be inadequate for a prospective supply of the city, for the domestic uses of its inhabitants, for a constant resource for the extinguishment of fires, and for the various modes of purification of the city.

The estimated cost of the works, $2,118,000, underwent severe scrutiny from the remonstrants. They endeavored to satisfy your Committee, that the estimate was much too small, and appealed to the cost of the Croton Water-works, as authority. The Croton cost some $11,000,000, exclusive of interest. It is forty miles long. This is twenty miles, say $5,500,000. The Croton structure is about twice as large as this, and will, therefore, cost nearly twice as much, say for this, $2,750,000. Now deduct $1,000,000 for the Harlem bridge, and it leaves us $1,750,000. This course of demonstration, shows the estimate of the Commissioners near the truth. At any rate, there is no reason, whatever, to doubt, that a durable work for the object proposed, can be constructed at an expense of moderate amount, compared with the magnitude of the object to be accomplished, and compared with the *ordinary* cost of great works of this nature. The face of the country, over which the aqueduct is to be carried, presents no obstacles of a formidable nature, and no works but of a simple and ordinary character seem necessary, for the accomplishment of the object.

The remonstrants contended, with much earnestness, that the petitioners were bound to show, that their source of supply was superior to all others. Spot Pond and Mystic Pond, Charles River, and Neponset River, Magog Pond, and Stony Brook, each have their friends, and might each be made to supply, in whole or in part, the want. Your Committee are of opinion, however, taking into the account the present and the future, the cost and permanency of such works, and the injurious consequences of an insufficient supply, that the petitioners acted wisely in preferring Long Pond.

It was contended, that the wants of the city, in respect to water might and ought to be supplied by private corporations, at the charge of the persons using the water. It was said to be unjust, to tax those who were supplied for the benefit of those who were not. Were such persons to derive no benefit from the works, there would be much weight in the argument. But all the common benefits of this improvement, they, in common with their fellow citizens, will enjoy. This objection goes too far. It might relieve the childless from the payment of a school tax, and the thoughtless from contributing his share towar the support of the

Gospel and other institutions, on which the salvation of our country depends. There are many reasons, why it seems to us, more appropriate to confer this power on the city, in its municipal capacity. Cheapness and uniformity of distribution, the laying down and repair of the pipe, the use of the water for the extinguishment of fires, and for the purification of the city, by cleansing its streets, drains and sewers, are among the reasons, that incline us to this preference, being better accomplished by municipal arrangement, than by any other.

As to the matter of land and water damages, the Committee can give no opinion. The Commissioners still think their estimate amply sufficient. As to the Middlesex Canal and Concord River Mills, both at Lowell and Billerica, if reservoirs be supplied as proposed by the city, to furnish as much water to the canal as it derives from Long Pond, no injury will be done to the canal or dependent mills by the diversion of the waters of Long Pond. Mr. Knight's factory in Framingham, is the most valuable property that will be disturbed by the aqueduct. It is said that he will be content with the substitution of steam power, and such other incidental damage as may be caused him by establishing the aqueduct. The lands over which it will pass to Corey's Hill, cannot be very expensive, being mostly pasture ground.

The necessity of resorting to the most appropriate sources, for the supply of water for so important an object, as that of meeting the wants of the inhabitants of a large and populous city, for the purposes of food, health and security against fire, presents an exigency as urgent as almost any which can be imagined, for the exercise of the right of eminent domain, in taking private property for a public use, on awarding an adequate compensation therefor. It is manifest that the object can be obtained in no other way, but at the hazard of subjecting the city to unreasonable exactions for the water required, and for the right of passage over land on the route of the proposed works. The power asked for is precisely of the nature of that, which has been habitually granted for the construction of canals and rail-roads. The only novelty about it is, that the petition asks leave to appropriate water as well as land, and your Committee can see no good reason why the one is not as liable to this kind of appropriation as the other.

Your Committee has now examined the evidence, and arguments, and prominent points of the case, and conclude this report by saying, that, in consideration of the manifest want of water in the city, and the long protracted struggle to obtain a supply, and the practicability and reasonableness of the proposed aqueduct, they are unanimously of opinion that the prayer of the petition ought to be granted, and accordingly report the accompanying Bill.

MYRON LAWRENCE,
Chairman of Committee.

COMMONWEALTH OF MASSACHUSETTS.

In the Year One Thousand Eight Hundred and Forty Five.

AN ACT

For supplying the City of Boston with Pure Water.

BE *it enacted by the Senate and House of Representatives, in General Court assembled, and by the authority of the same, as follows:*

Sect. 1. The City of Boston is authorized, in the manner hereinafter provided, to convey into and through the said city, the waters of Long Pond, so called, in the towns of Natick, Wayland, and Framingham, and the waters which may flow into and from the same, and to take and hold the said Long Pond and the waters flowing into and from the same, and also any other ponds and streams within the distance of four miles of said Long Pond, for the purpose of furnishing a supply of pure water for said city.

Sect. 2. The said City of Boston may take the said ponds and streams, or either of them, and any water rights connected therewith, and may also take and hold any real estate necessary for laying aqueducts and forming reservoirs, and for any of the purposes of this act, and may build one or more permanent aqueducts leading from the said water sources into and through the city, and secure and maintain the same by any proper works, and may connect the said water sources with one another, may erect and maintain dams to raise and retain the waters therein, and make and maintain reservoirs within and without the city, and in general may do any other act necessary or convenient for the purposes of this act, and may distribute the water throughout the city, regulate its use, and the price to be paid therefor, within and without the city ; and the said city, for the purposes aforesaid, may carry any works by them to be constructed, over or under any highway, town-way, street, turnpike road, or rail-road, in such manner as not to obstruct or impede travel thereon ; and may enter upon and dig up any highway, town-way, turnpike road or street for the purpose of laying down pipes beneath the surface thereof, or for the purpose of repairing the same.

SECT. 3. The said city is also authorised to purchase and hold all the property, estates, rights and privileges of the aqueduct corporation, incorporated by an act passed February 27th, A. D. 1795, and by any convenient mode may connect the same with their other works.

SECT. 4. All the authority hereinbefore given shall be exclusively exercised through and by commissioners to be appointed as hereinafter directed, until the office of Commissioners shall cease as hereinafter provided.

SECT. 5. Three Commissioners shall be chosen by ballot by the Mayor, Aldermen and Common Council assembled in convention ; and any vacancy in the Board of Commissioners shall be filled in the same manner. Before the election of said Commissioners, the Mayor Aldermen and Common Council, in convention as aforesaid, shall establish and fix the compensation to be paid to the said Commissioners during the progress, and until the completion of the works herein provided for : *provided, however*, that such compensation shall not be fixed at a less sum than three thousand dollars or more than five thousand dollars a year for each Commissioner during said time ; and shall also fix and establish the compensation to be paid to each Commissioner after the completion of said works ; *provided*, that such last mentioned compensation shall not be fixed at a less sum than one thousand dollars a year for each Commissioner. And whereas it may, after the completion of said works, be expedient that one of said Commissioners should be chiefly charged with the care and superintendence of the said works, the collection of rents, and the general executive duties of the board ; one of the said board shall be designated as Chief Commissioner by the Mayor and Aldermen and Common Council in like manner as is herein provided for the original choice ; and the said Chief Commissioner shall be paid in addition to his other salary, a further sum not exceeding two thousand dollars a year ; and the respective salaries hereby provided for said Commissioners shall not be reduced during their continuance respectively in said office.

Sect. 6. Every Commissioner appointed as aforesaid shall remain in office until removed by the Mayor and Aldermen and Common Council assembled in Convention as aforesaid ; and no Commissioner shall be liable to be removed except for incapacity, mismanagement or unfaithfulness in the discharge of the duties of his office, nor without having had an opportunity to be heard before such Convention, nor unless three-fourths of the persons elected as Aldermen and members of the Common Council in Convention as aforesaid shall vote for such removal.

Sect. 7. If any owner of lands, waters, or water-rights, taken for the purposes of this act shall not agree with the said city upon the price to be paid therefor, he may at any time within, but not after three years from the time of such taking, apply by petition to the Court of Common Pleas holden within and for the county in which such lands, waters, or water-rights shall have been taken, either before or during any term of such court, and, after fourteen days' notice, which may be given by leaving a copy of such petition with the Mayor of said city, the court may proceed to the hearing of the petitioner upon the appearance or default of the adverse party ; and the said court may thereupon appoint three disinterested persons, being freeholders and inhabitants of this Commonwealth, to determine the damages, if any, which such petitioner may have sustained ; and, after reasonable notice to the parties, to estimate such damages ; and the award of the persons so appointed, or of the major part of them, shall be binding and conclusive upon the parties, and shall be returned by them, as soon as may be, into the said court; and upon the acceptance thereof by said court, judgment shall be rendered for the party prevailing, with costs, and execution shall issue accordingly. *Provided*, *always*, that if either party shall be dissatisfied with such award, such party may apply to the said court for a trial by jury at the bar of said court, to hear and determine all questions relating to such damages and to assess the amount thereof ; and the said court shall enter judgment and issue execution accordingly ; and costs shall be allowed to the parties respectively, in the same manner as is provided by law in regard to proceedings relating to the laying out of highways. *Provided*, that no complaint shall be made as aforesaid for the taking of any water-rights, until the waters aforesaid shall be actually withdrawn by the said city by virtue of the provisions of this act ; and any party whose rights may be thus affected, may make his complaint in manner aforesaid, at any time within three years from the time when he first sustains such injury.

Sect. 8. The said Commissioners shall exclusively exercise all the rights, powers and authority given by this act to the said city ; and in pursuance thereof, may make all suitable contracts, and employ all proper engineers, clerks and other agents in the premises, until the office of such Commissioners shall cease as hereinafter provided.

Sect. 9. For the purpose of defraying all the expenses and cost of such lands, waters and water-rights as shall be taken or purchased for the purposes of this act, and of constructing all works necessary to the accomplishment of said purposes, and all expenses incidental thereto, the said Board of Commissioners shall have authority to issue, in the name of the said city, notes, or scrip, or certificates of debt, to be denominated on the face "Boston Aqueduct Scrip," to an amount, in the whole, not exceeding the sum of two millions five hundred thousand dollars, and bearing an interest not exceeding five per cent. per annum; and said interest shall be payable semi-annually, and the principal of said debt shall be payable at periods of not less than fifteen, or more than forty years from date; and the said Commissioners may sell the same at public or private sale, and may pledge the same for money borrowed at a rate not exceeding six per cent. per annum, when such scrip cannot be sold at the par value thereof, or may so pledge the same for money borrowed at a higher rate of interest, if authorized so to do by said city. And in addition to the said sum of two millions five hundred thousand dollars, the said Commissioners may issue and dispose of scrip in the manner hereinbefore provided, to meet all payments of interest accruing upon any scrip by them issued as aforesaid: *provided*, *however*, that no such scrip shall be issued by said Commissioners beyond two years after the completion of said works; but the payment of all accruing interest after that time shall be provided for by the City Government, in such manner as they may think proper. All certificates to be issued as aforesaid shall be signed by the said Commissioners, or a majority of them, and shall be countersigned by the Mayor of said city; and a record of said certificates shall be made and kept by the treasurer of said city.

All money received by said Commissioners shall be deposited to their credit, in some bank or banks of good credit, within said city, and subject to their order. The said Commissioners shall keep regular books of accounts, and books for the recording of their doings; and the clerks employed therein shall be sworn to the faithful discharge of their duty; and all such books shall be open to the examination of any person or persons appointed therefor by the Mayor and Aldermen of said city. The said Commissioners shall, once in every six months, make to the City Council a report of their doings, accompanied with complete exhibits of all their receipts and expenditures of money in the premises. When the funds provided as aforesaid shall be exhausted, the said Commissioners shall report the fact to the

City Council, and shall suspend the prosecution of the works until supplied with other funds, except so far as to secure and preserve what shall have been done.

Sect. 10. The City of Boston shall have the exclusive right of using and disposing of such of the waters aforesaid as may be taken by them for the purposes aforesaid; and an action of trespass on the case against any person, for using the same without the consent of said city, may be maintained by the said Commissioners.

Sect. 11. The said Board of Commissioners, for the time being, shall regulate the distribution and use of the water, within and without the city; and, from time to time, shall fix the price for the use thereof; and they may establish such a number of public hydrants, and in such public places, as they shall see fit, and direct for what purposes the same shall be used; all which they may change at their discretion.

Sect. 12. The owner and occupier of any tenement, shall each be liable for the payment of the price or rent, for the use of the water by such occupier.

Sect. 13. The said Commissioners shall make no contract for the price of using the water beyond the term of five years; and at the expiration of any term or lease, the price of the use shall be adjusted according to the regulations then established, and which may from time to time be established by the Commissioners while in office, or by the City Council afterwards.

Sect. 14. It shall be the duty of the said Commissioners to regulate the price of the water, with reference ultimately, to paying from the proceeds thereof the interest and principal of the Aqueduct Scrip aforesaid, as far as shall be found practicable, consistently with the purposes of this act. And the net proceeds of the water rents, after paying all expenses for maintaining the distribution of the water, and for salaries, wages, and incidental charges, shall be a collateral security to the holders of said Aqueduct Scrip, in addition to the liability of the city, for the payment of the interest from time to time, and the final reimbursement of the principal of said scrip ; and when any surplus of funds shall be on hand, the said Commissioners may buy up any of said scrip for the benefit of the said city, and the same shall then be cancelled.

Sect. 15. Each of the said Commissioners shall, before entering upon his trust, give bond with sufficient surety or sureties to the said City of Boston, in the penal sum of fifty thousand dollars, conditioned for the faithful performance of the duties of his office.

Sect. 16. A major part of said Commissioners shall constitute a quorum for doing and performing all things allowed or required by the powers or duties of their commission. And all contracts, engagements, acts and doings of the said Commissioners, within the scope of their duty or authority, shall be obligatory upon, and be in law considered as done by said city.

Sect. 17. When the said Aqueduct Scrip shall all have been paid or cancelled, all balances of money, books, records, and documents, and all property shall be disposed of in such manner as the said City Council may direct ; the office of Commissioners shall cease, and all the rights, powers and duties touching the aqueduct ; the distribution of the water, and the price for its use, shall be exercised by the city in such manner, and by such servants and agents as the City Council may from time to time direct and appoint,—and all rights of action vested in said Commissioners, shall thereupon vest in said city.

Sect. 18. The said Commissioners may prosecute and defend any action or process at law and in equity, on contract or tort, by the name of " the Water Commissioners of the City of Boston," against any person or persons for money due for the use of the water, for the breach of any contract express or implied, touching the execution or management of the works, or the distribution of the water, or of any other promise or contract made to or with them; and also for any injury, trespass, or nuisance, done or suffered to the water, water sources, works, or establishments within or without the said city; and any vacancy in the Board of Commissioners, or the filling of any vacancy either before or after any such injury, trespass or nuisance, or before or after the making of any such contract, as aforesaid, or cause of action accruing, shall not change the right of said Commissioners as a body to commence or maintain such action or process at law or in equity, but in all such cases, they shall be considered from the time of the organization of the board as a corporation.

SECT. 19. If any person or persons shall maliciously divert the water of said ponds or water sources, or shall corrupt or render impure the same, or any connected therewith, or shall destroy or injure any dam, pipe, aqueduct, conduit, machinery, or other property used in the premises, such person or persons, and their aiders and abettors, shall forfeit to the said city, to be recovered in an action of trespass, or trespass on the case, by the said Commissioners, treble the amount of damage which shall appear on trial to have been sustained thereby; and may, upon conviction, be further punished by a fine not exceeding one thousand dollars, or by imprisonment not exceeding one year.

SECT. 20. The Mayor and Aldermen of said city, shall notify and warn the legal voters of said city, to meet in their respective wards, within sixty days from the passage of this act, for the purpose of voting upon the question, whether they will or will not accept the same; and if a majority of the votes given in shall be in the negative, this act shall be void.

SECT. 21. This act shall take effect from and after its passage.

The foregoing is a correct copy of the bill as it was reported by the Committee. In its passage through the Legislature the following amendments were adopted:

In Sect. 1, by inserting after the word "city," line 2, the words "the water of Charles River, at and from some point in the town of Watertown, with the consent of said town, to be determined upon by the Commissioners to be appointed under this act, or." Also at the end of the same section by inserting the words "and the City Government shall determine by a majority of votes in joint ballot, from which source to bring the water."

In Sect. 2, first line, by inserting after "Boston," the words "water of Charles River, or of said."

In Sect. 9, line 17, after "par value thereof," by striking out the following words, viz: "or may pledge the same for money borrowed at a higher rate of interest, if authorized so to do by said city."

The first sentence of the second paragraph of the same section is so amended as to read, "All money received by said Commissioners shall be deposited to their joint credit, in some bank or banks of good credit, within said city, and subject only to their joint order."

The same section is further amended by inserting after the words "Mayor and Aldermen," at line 8 of 2d paragraph, "or by the Common Council."

In Sect. 16, line 4, after "doings of," the words "majority of" are inserted.

In Sect. 20, line 4, after the word "voting," the words "by ballot," are inserted.

With the foregoing amendments the act was adopted and approved by the Governor, March 25, 1845.

APPENDIX.

DR. T. C. JACKSON'S REPORT

OF

ANALYSIS OF WATER OF LONG POND, NATICK.

Boston, February 1st, 1845.

Messrs. Wm. Parker, James Hayward, and T. B. Curtis,
Gentlemen :

At your request, I visited Long Pond, in Natick, on Tuesday last, and obtained specimens of the water from each of the three divisions of that pond, and have since made a chemical analysis of each sample, the results of which I now communicate.

Specimen No. 1, was taken thirty rods from the shore, and opposite the place where, according to the plan given me by Mr. James F. Baldwin, the proposed aqueduct is to commence.

No. 2, was taken near the middle of the central division of the pond, nearly opposite the house of Widow Coggins, and four hundred paces from the shore.

No. 3, was taken from near the middle of the upper division of the pond, opposite the house of Mr. Morse, and about four hundred yards from the shore.

The water was obtained by cutting holes through about ten inches of ice, and was drawn up by means of a clean tin bucket, and poured into clean glass jars and demijohns, which were closely stopped and brought to my Laboratory in Boston for analysis.

Chemical analysis of the water of Long Pond.

One Imperial English gallon, equal to 70,000 grains of distilled water at 60° F, or to 277.274 cubic inches in bulk, of each sample, yield the following amounts of vegetable and mineral matters, when evaporated to entire dryness, and on separation of the ingredients.

Long Pond Water No. 1, (Lower Pond.)

Vegetable matter destructible by heat,	2.4	grains.
Mineral matter (earths and salts,)	3.6	"
Whole contents of one gallon of the water,	6.0	"

Long Pond Water No. 2, (Middle Pond.)

Vegetable matter destructible by heat,	1.64	grains.
Mineral matter (earths and salts,)	3.88	"
Whole contents of one gallon of the water,	5.52	"

Long Pond Water No. 3, (Upper Pond.)

Vegetable matter destructible by heat,	1.42	grains.
Mineral matter (earths and salts,)	2.90	"
Whole contents of one gallon of the water,	4.32	"

The vegetable matter consists of the usual organic acids of the soil, which are combined with the earthy bases, lime, magnesia, and with oxides of manganese and iron. These bases are separated by combustion of the vegetable acids, the lime and magnesia which they contained, being converted into carbonates of lime and magnesia.

The salts are chloride of sodium, or sea salt, sulphate of lime or gypsum, and sulphate of soda, which are found in the mineral matter, mixed with a minute quantity of clay and phosphate of lime, and the earthy bases derived from the combustion of the organic acid, compounds before noticed.

The foreign matters in this water, are in such small proportions, as in no way to impair its healthfulness as a drink, nor will they prove injurious in washing clothing.

It is somewhat remarkable that the water of the upper division of the pond should prove the purest, considering the fact of its overflowing a small peat bog or cranberry meadow, during this season of the year. This must result from the influx of purer water from a neighboring pond, which empties into Long Pond, by a small stream, traversing the meadow.

In riding around Long Pond, and viewing its steep, gravelly shores, I was favorably impressed with the plan of raising its waters by means of a dam at the outlet, being satisfied that no danger was to be apprehended from flowage of extensive bogs, as some have supposed would result therefrom.

The little bog or cranberry meadow, at the head of the pond, may be dyked out, and saved from flowage, and the value of that kind of land will indicate the propriety of doing this. The bog comprises forty acres, and is worth $1.50 per square rod, for peat, taken three splittings deep. If this bog is dyked, the small stream which passes through it, may be turned and brought in through more elevated land.

I would remark, in conclusion, that pond waters are always better that river waters, since they are free from admixture of earthy sedimentary matters, which are brought down by rivers during freshets, and require to be removed by allowing the water to remain at rest for some time in a settling pond, before conducting the water to the city.

Those who have seen the water from the Fairmount water works, in Philadelphia, in the spring season, must have observed in it a considerable proportion of fine earthy matter, which renders the water milky at that season of the year. No such sediment will ever be seen in the water drawn from the natural ponds in this vicinity, for those ponds are fed chiefly by subterranean springs, and all the earthy matter which washes in from the shores, subsides readily, where there is but little or no current.

It must be obvious to every one, that inland ponds will furnish much purer water than can be obtained from wells sunk in the marine clays and sand of Boston, which charge the water with saline matters, while the surface waters not only become impure from this cause, but are also contaminated with various impurities from the drains and vaults so abundant in the top soil, or near the surface.

Most of the well water of Boston is very impure, and is becoming more so, from increased sources of filth, especially from the connection of vaults and water closets with the common sewers, which are far from being impervious at their bottoms and sides. I am therefore satisfied that it will soon be absolutely necessary to introduce an abundant supply of pure water into the city, and the neighboring ponds will furnish an adequate supply.

At the request of the Committee, I have analysed a specimen of water, regarded as one of the purest in the city, and herewith present the results. It was furnished from a well in Tremont street, by Mr. Baldwin. One imperial gallon of this water was found to yield 26.6 grains of brown diliquescent matter, consisting of muriates of lime and magnesia, sea salt, sulphates of soda and potash, and sulphate of lime, with organic matters from the soil, which gave the salts a brown color. Few well waters in the city are so pure as this. Those on the low lands are often so highly charged with salts, as to be unfit to drink.

The waters from Artesian wells in Boston have generally been found to contain more saline matter than that of ordinary wells of less depth. Hence it appears that since good water cannot be obtained from the soil of the city, we shall be obliged to seek for it elsewhere.

Respectfully your obedient servant,

CHARLES T. JACKSON.

City Document—No. 13.

CITY OF BOSTON.

ASSESSMENT OF TAXES.

In Common Council, April 2, 1845.

Read, laid on the table, and ordered to be printed.

Attest, W. P. Gregg, *Clerk C. C.*

CITY OF BOSTON.

In Common Council, March 6, 1845.

Ordered, That Messrs. Seaver, Cook and Wood, 2d, with such as the Board of Aldermen may join, be a Committee to consider and report, what alterations, if any, are necessary in the Ordinance concerning the assessment and collection of Taxes, so far as relates to the duties of Principal Assessors.

Sent up for concurrence.

P. W. CHANDLER, *President*.

In the Board of Aldermen, March 10, 1845.

Read and concurred, and Aldermen Ayer and Hathaway were joined.

THOMAS A. DAVIS, *Mayor*.

CITY OF BOSTON.

The Joint Special Committee who were instructed to consider and report what alterations, if any, are necessary in the Ordinance concerning the assessment and collection of Taxes, so far as relates to the duties of the Principal Assessors, ask leave to

REPORT:

That they have endeavored to give the subject such consideration as its importance demands; and from an examination of the duties prescribed by the City Ordinances concerning the assessment and collection of Taxes, they are of opinion that the Ordinance cannot be complied with in all its particulars.

Section 1st of the Ordinance passed the 16th of May, 1836, prescribes the particular mode of the election of the Assessors. Section 2d points out the manner of organization of this Board, and the subsequent sections define their several duties. In one of these it is made the duty of the Assessors to "issue the tax bills for Taxes assessed on all persons (excepting upon those on whom a poll tax only is assessed) on or before the 1st day of September in each year;" and furthermore it is made obligatory on the Assessors to issue forthwith the tax bills for poll taxes assessed upon each person who shall be assessed for poll tax only, as soon as the amount of such poll tax shall be ascertained.

These requisitions the present Board of Assessors assure your Committee they have found it impossible to comply with. It has been practicable with much effort, until the last year, to issue the bills at the time required. But of late our City has increased much in its territorial extent, and the amount of taxable property thus brought under the supervision of the Assessors is exceedingly great. By reference to their books for the last 20 years, it will be seen how fast their duties have increased.

In 1825 the whole valuation of the personal and real estate of the City, was barely 52,442,800 dollars, requiring a little less than 12,000 tax bills. In the year 1844 the whole amount of personal and real property was valued at 118,450,300 dollars, requiring about 24,500 tax bills.

In 1834 the salary of the Assessors was raised from $1,000 to $1,200, and at this sum it has since remained, although the labors have increased more than sixty per centum.

Additional duty has of late years been imposed upon them in taking a list of all persons liable to do military duty and preparing an abstract of the same, to be deposited in the office of the Secretary of State.

These facts, together with the acknowledged necessity of issuing the tax bills as early as the first of September, in order that the financial interests of the City may not suffer, induce your Committee to recommend the passage of the following Ordinances.

For the Committee,

J. CULLEN AYER.

AN ORDINANCE

In addition to an Ordinance now existing, for the Assessment and Collection of Taxes.

SECT. 1. *Be it ordained by the Mayor, Aldermen, and Common Council, in City Council assembled*, That there shall be chosen in the month of March or April annually, under the same provisions as relate to the choice of Permanent Assessors, three Temporary Assessors for Assistants, in taking the valuation of the Real and Personal Estates of the City, and that to each of said Permanent and Temporary Assessors, there shall be appointed by them, under direction of the Joint Standing Committee hereinafter provided for, one Clerk, to be employed during the time said valuation is being taken.

SECT. 2. There shall be appropriated for the Assessors' Department, the sum of *one thousand* dollars, in addition to that now allowed for the salaries of the Permanent Assessors, to meet the necessary provisions under this additional act.

SECT. 3. There shall be appointed a Joint Standing Committee, consisting of *two* Aldermen and *three* Common Councilmen, to be denominated the Committee on the Assessors' Department, whose duty it shall be to nominate the Temporary Assessors (provided for in the 1st section) to the City Council, to supervise the expenditure therefor and all other matters connected with that department, not inconsistent with the present Ordinance.

City Document—No. 14.

CITY OF BOSTON.

SALARIES.

In Common Council, April 10, 1845.

Read, laid on the table, and ordered to be printed.

Attest, W. P. GREGG, *Clerk C. C.*

CITY OF BOSTON.

In Common Council, March 27, 1845.

Ordered, That Messrs. Curtis, Whiting and Gibson, with such as the Board of Aldermen may join, be a Committee to consider and report what Salaries should be allowed the several City and County Officers, for their services, during the ensuing year.

Sent up for concurrence.

P. W. CHANDLER, *President.*

In the Board of Aldermen, March 31, 1845.

Read and concurred, and Aldermen Ayer and Hathaway were joined.

THOMAS A. DAVIS, *Mayor*

CITY OF BOSTON.

The Joint Special Committee who were instructed "to consider and Report what Salaries should be allowed the several City and County Officers for their services during the ensuing year," having attended to that duty, ask leave to

REPORT:

That the said Salaries ought to be the same as those paid in 1844, excepting those of the Port Physician, which ought to be reduced four hundred dollars, and of the City Solicitor, which should be fifteen hundred dollars, and the fees he may hereafter receive in said capacity, be paid into the City Treasury. And they accordingly Report the following Order in conformity therewith.

For the Committee,

J. CULLEN AYER.

CITY OF BOSTON.

AN ORDER

Establishing the Salaries of the Officers of the City of Boston and County of Suffolk.

Ordered, by the Mayor, Aldermen and Common Council of the City of Boston, in City Council assembled, as follows:

The Salaries of the several City and County Officers for the year beginning on the first day of April, one thousand eight hundred and forty-five and ending on the thirty-first day of March, one thousand eight hundred and forty-six, shall be as is hereinafter mentioned, to be paid quarter yearly, unless herein otherwise ordered.

SECT. 1. The salary of the Mayor at the rate of two thousand five hundred dollars per annum.

SECT. 2. The salary of the City Treasurer at the rate of two thousand dollars per annum, for performing the duties of City and County Treasurer and Collector, and there shall be allowed him the further sum of twenty-seven hundred dollars for the services of permanent Clerks and of deputy Collectors, and he shall account for all fees, monies and commissions, which he shall receive in said capacity.

SECT. 3. The salary of the City Clerk shall be at the rate of fifteen hundred dollars per annum, and there shall be allowed him for Clerk hire the further sum of six hundred dollars, and also one half part of all the fees received by him for recording mortgages of personal property, after deducting the expense of extra Clerk hire in recording the said mortgages, and he shall account for all other fees and other sums of money which he may receive in the said capacity.

Sect. 4. The salary of the Auditor of Accounts shall be at the rate of fifteen hundred dollars per annum, and he shall account for all sums of money received by him in the said capacity.

Sect. 5. The salary of each of the Principal Assessors, shall be at the rate of twelve hundred dollars per annum, including the allowance provided for by the Revised Statutes of the Commonwealth, and there shall be allowed them for Clerk hire, the further sum of four hundred dollars, including the amount paid for Clerk hire in preparing the list of qualified voters.

Sect. 6. The salary of the Superintendent of Streets, shall be at the rate of eleven hundred dollars per year.

Sect. 7. The salary of the City Solicitor shall be at the rate of fifteen hundred dollars per annum, and all fees received by him in said capacity, shall be paid into the City Treasury.

Sect. 8. The salary of the Superintendent of Burials shall be at the rate of one thousand dollars per annum, and he shall account for all fees and forfeitures by him received.

Sect. 9. The salary of the City Marshal shall be at the rate of eleven hundred dollars per annum.

Sect. 10. ~~That~~ the salary of the Superintendent of Common Sewers shall be at the rate of eleven hundred dollars per annum.

Sect. 11. The salary of the Master of the House of Correction shall be at the rate of one thousand dollars per annum, and he shall be allowed sufficient house room in said building, free of rent, and board for himself and family, but no other fees or perquisites shall be allowed him.

Sect. 12. The salary of the Superintendent of the House of Industry, shall be at the rate of one thousand dollars per annum, and he shall be allowed sufficient house room in said building, free of rent, and board for himself and family, but no other perquisite shall be allowed him.

Sect. 13. The salary of the Clerk of Faneuil Hall Market shall be at the rate of ~~nine hundred~~ one thous dollars per annum, and he shall account for all sums of money received by him in said capacity.

Sect. 14. The salary of the Clerk of the Common Council shall be at the rate of six hundred dollars per annum.

Sect. 15. The salary of each of the Deputy Marshals shall be at the rate of seven hundred dollars per annum.

Sect. 16. The salary of the Messenger of the City Council shall be at the rate of eight hundred dollars per annum.

Sect. 17. The salary of the Clerk of the Board of Overseers of the House of Correction, shall be at the rate of seven hundred dollars per annum.

Sect. 18. The salary of the Superintendent of Alien Passengers shall be at the rate of five hundred dollars per annum, to be taken from the first net amount received from Alien Passengers, and the further sum of ten per centum on all monies received by him from Alien Passengers—*provided*, said last mentioned allowance shall not exceed five hundred dollars per annum.

SECT. 19. The salary of the Superintendent of the North Free Bridge, shall be at the rate of 6 ~~five~~ hundred dollars per annum, and he shall be allowed the shop on the said bridge rent free; the said compensation and privilege to be in full not only for his own services, but also for the services of such assistants as he may employ.

SECT. 20. The salary of the Superintendent of the Boston South Bridge, shall be at the rate 3 of ~~two~~ hundred dollars per annum, and he shall be allowed the use of the house and shop on the said bridge free of rent, the said compensation and privilege to be in full for all services of himself and assistants.

SECT. 21. The salary of the Chief Engineer of the Fire Department, shall be at the rate of twelve hundred dollars per annum. The Assistant Engineers shall be at the rate of one hundred and fifty dollars each per annum.

The Secretary of the Board of Engineers for all services that may be required of him by the Mayor and Aldermen, the Chief Engineer and the Board of Engineers, at the rate of four hundred dollars per annum.

The Foremen of the respective Engines, Hose, Hook and Ladder Companies shall be allowed at the rate of one hundred dollars each, per annum. The Assistant Foremen and Clerks of the said

Companies, shall be allowed at the rate of seventy-five dollars each, per annum.

The Stewards of the said Companies shall be allowed at the rate of one hundred dollars each, per annum. And all other members of said Companies shall be allowed at the rate of sixty-five dollars each, per annum. And the salaries granted by this section, except those of the Chief Engineer and the Secretary of the Board of Engineers, shall be payable semi-annually.

SECT. 22. The salary of the Superintendent of Public Lands and Public Buildings, shall be at the rate of eleven hundred dollars per annum.

SECT. 23. The salary of each of the Justices of the Police Court, shall be at the rate of fifteen hundred dollars per annum.

SECT. 24. The salary of the Clerk of the Police Court, shall be at the rate of fourteen hundred dollars per annum.

SECT. 25. The salary of the Assistant Clerk of the Police Court, shall be at the rate of nine hundred dollars per annum.

SECT. 26. The salary of the Superintendent of the Boston Lunatic Asylum, shall be at the rate of one thousand dollars per annum, and he shall also be allowed sufficient house room for himself and family free of rent, and board in said Hospital—-which compensation and privileges shall be in full for his services as Superintendent of said Hospital and also as Physician to the other Public Institutions at South Boston.

SECT. 27. The salary of the Port Physician shall be at the rate of ten hundred dollars per annum.

City Document—No. 15.

CITY OF BOSTON.

SUPERINTENDENT OF FANEUIL HALL.

In Common Council, April 10, 1845.

Read, laid on the table, and ordered to be printed.

Attest, W. P. GREGG, *Clerk C. C.*

CITY OF BOSTON.

In City Council, April 10, 1845.

The Joint Special Committee, to whom was recommitted their Report on the Petition of John S. Tyler and others, with instructions to report an Ordinance in accordance with the principles of said Report, have considered the subject, and recommend the passage of the accompanying Ordinance.

For the Committee.

THOMAS A. DAVIS.

AN ORDINANCE

In addition to an Ordinance providing for the appointment of a Superintendent of Faneuil Hall.

Be it ordained by the Mayor and Aldermen and Common Council of the City of Boston, in City Council assembled, as follows:

SECT. 1. In addition to the duties now required to be performed by said Superintendent, he shall take the sole charge of said Faneuil Hall, (under the direction of the Mayor and Aldermen) and shall perform all the duties of armorer for the several military companies, which now have, or shall hereafter have their armories therein; and he shall also perform all other duties which may from time to time be required of him in the premises, by the said Mayor and Aldermen, or by any Ordinance which may hereafter be made in the premises.

Sect. 2. The said Superintendent shall receive for his compensation the sum of Six Hundred Dollars, payable quarterly.

City Document—No. 16.

CITY OF BOSTON.

ANNUAL APPROPRIATIONS.

In Common Council, April 17, 1845.

Read, laid on the table, and with the Orders, &c., ordered to be printed.

Attest, W P. Gregg, *Clerk C. C.*

CITY OF BOSTON.

In City Council, April 17th, 1845.

The Joint Committee of the City Council, to which were referred the estimates prepared by the Auditor of Accounts, in relation to the Appropriations which will be necessary for the service of the various departments of the City Government, during the financial year which commences on the first day of May next, have had under consideration the duty with which they were charged, and respectfully ask leave to submit the following

REPORT:

There is no duty devolved, by law, upon the two branches of the City Council, more important than that of arranging the Income and Expenditures of the City Government—and deciding upon the amount of Tax which shall be assessed upon the citizens. It is a subject which should be thoroughly investigated, and deliberately acted upon. It is a most obvious duty of the City Council, to see that all the departments of the government are conducted with a judicious and wholesome economy—while, at the same time, nothing is omitted to be done, which appears to be necessary or proper to promote the public convenience and comfort of the inhabitants of a great and prosperous City.

In carefully examining the amounts estimated as necessary for the financial year which is now near its commencement, and comparing those estimates with the appropriations of the last year, your Committee find several heads under which an increase from the last year appears necessary. The Committee have endeavored to dispense with every addition that could possibly be avoided—but, in several instances, they have found themselves impelled, by a due regard to the interests of the City, to recommend to the Council increased appropriation. Of some of the most prominent of these increased items, they think it proper to speak in this Report.

The Appropriation for the Fire Department will need an addition of $9,000—caused by the increased compensation granted by the City Council to the members of that Department.

The Appropriation for the Salaries of Instructers of the Schools, for the Primary Schools, and for Repairs and Supplies of the Schools, will require considerable additions, in consequence of the new Schools which have been established within the last year. The Appropriations proposed to be granted for the Public Schools, by the order now submitted by your Committee, are as follow:

Salaries of Instructers of all the Schools, except the Primary Schools, - - - -	96,500 00
Erection of a new Grammar School House, on land belonging to the City, - - - - -	18,000 00
For the Primary Schools, - -	42,600 00
Erection of Primary School Houses,	12,000 00
Repairs and Supplies of Schools, -	20,500 00
Making the whole amount appropriated for Schools, - - -	$189,600 00

Thus, it will be seen that one full fourth part of the whole tax proposed to be assessed for the next financial year is to be expended on the public Schools of the City. Like most of the other items in which the Committee propose increase of appropriation, this, for the Schools, derives its necessity of augmentation from the great increase of the population—and the Committee will not undertake to waste their own time, or that of the Council, upon an argument in favor of yielding a full and liberal support to our Public Schools.

An increase of $6000 is required in the Internal Health Department. This department embraces the sweeping and cleaning the Streets, and the removal of the House Offal and other nuisances. The increase of the number of houses and inhabitants, and the laying out of new Streets, render this addition necessary. Small additions are required, also, for the Lamps and Watch, caused by much the same reasons.

For the care and improvement of the Public Lands, the Committee propose the sum of $10,000, instead of $5,000—the amount granted last year. The great demand for Real Estate in our City is extending its influence to the lands belonging to the City—and a judicious management of that property appears to require a considerable outlay of money, in grading the Streets, laying Drains, and other purposes calculated to render the property marketable.

To the Appropriation for Paving and Repairs of Streets, the Committee recommend an addition of $5,000—required by the extensive operations in this department, which appear to be necessary the ensuing year.

The Committee recommend $5,000 for the construction of Reservoirs, instead of $2,000, the amount of last year—as they are informed that Reservoirs are requisite at South Boston and East Boston, to protect those sections of the City against the ravages of fire.

The largest amount of increase, recommended by the Committee, is under the head of Widening Streets. The amount granted last year was $35,000. The Committee propose, for the ensuing year $50,000—and it is even doubtful whether this amount will be quite sufficient for the purposes of the year. The unexampled quantity of building, and the numerous improvements of Real Estate, which are now going on in our City, render this additional amount necessary. Where new buildings are erected, they must of course be made to conform to the prospective line of the Street on which they are situated—and, where land is taken for this purpose, it must of course be paid for by the City.

The only new Appropriation proposed by the Committee is the sum of $9,000 for the erection of the building in the vicinity of the City Hall, for a Ward Room in the Seventh Ward, a Watch House, &c., the erection of which has already been ordered by the City Council.

The only considerable reductions from any of the Appropriations of the last year, are in those for the Houses of Industry and Reformation, and for the payment of Interest on the City Debt. In the estimate of the Directors of those Houses, the Committee are gratified to find that they require, for the maintenance of the establishment under their charge, $4,000 less than the Appropriation of the last year.

The diminution of the amount for Interest on the City Debt, 13,000—is in consequence of the large amount of Debt which has been paid and cancelled, during the current financial year.

Three Appropriations granted in the original order of the last year are dispensed with—the objects for which they were granted having been completed. These were for the completion of the Latin and English High School—for improvement of the building heretofore occupied by the English High School—and for contructing solitary rooms at the Boston Lunatic Hospital.

After adjusting the various items as accurately as possible, the Committee arrive at the following result:

They find the total amount of increase required, under various Appropriations, beyond the order of the last year, - - - - - -	84,500
Total amount of diminution under various heads, is - - - - -	36,000
Making a balance of excess, - -	48,500
To this must be added, a diminution of the aggregate of the various items of the Income of the City, independent of Taxes, amounting to - - - - - -	6,500
Making	55,000
And from this may be deducted the amount which the Committee propose to take from the allowance for uncollected taxes, and abatements	

and losses of taxes, $25,000—instead of $30,000 the amount allowed last year, being deemed adequate for this purpose		5,000
And the total excess required to be raised for the purposes of the next financial year, over the amount raised for the curreat year, is		$50,000
The total amount of Appropriations, proposed by the order submitted in company with this Report, is,		886,000 00
To meet this, the Committee find that the amount of Income to be relied upon, independent of Taxes, is,		151,000 00
The Committee recommend that a Tax be levied upon the Property and Polls of the inhabitants of this City, amounting to	760,000 00	
From which must be deducted, for amount of taxes which will remain unpaid at the end of the year, and for abatements and losses,	25,000 00	
Leaving the amount of Income to be realized from the Tax of the year,		735,000 00
And making the amount of Income equal to the aggregate amount of the proposed Appropriations, say		886,000 00

The Tax ordered to be assessed, for the financial year 1844–45, was $710,000. The amount which the Committee now propose, for the financial year 1845–46, is $760,000, making an increase of $50,000 in the tax—and being precisely the amount of increase which is wanted, according to the foregoing statements. The Committee would have desired to be able to present a statement, requiring no increase of the Tax, in order that a diminution might have been made in the per centage of taxation. This, however, they have found impossible—and, as an increase of expenditure is inevitable, the Committee are quite certain that the Council will prefer to meet that increase by raising the Tax rather than to resort to a loan, for the ordinary public expenses. Such has been the increase of property in our City—a great amount of personal property having taken the more visible and tangible form of Real Estate, that the Committee are induced to believe that this addition of $50,000 to the Tax may be made, without any considerable advance in the ratio of taxation—and they are the less concerned at proposing this increase, when they consider the uncommon prosperity which pervades the business and pursuits of all classes of their fellow citizens.

All which is respectfully submitted.

For the Committee,

THOMAS A. DAVIS, *Chairman.*

CITY OF BOSTON.

AN ORDER

Relating to the SPECIFIC APPROPRIATIONS for the financial year 1845–46.

It is hereby ordered by the City Council, That to defray the EXPENSES of the City of Boston and County of Suffolk, for the financial year, which will commence with the first day of May, 1845, and end with the last day of April, 1846,—the following sums of Money be, and the same are hereby respectively appropriated, that is to say:

ANNUITIES—for the payment of three Annuities, viz: one for the purchase of George's and Lovell's Islands, and the other two to persons having life Estates in lands, taken for City improvement, *six hundred and twenty-five dollars*, - - - - - -	625
ADVERTISING AND NEWSPAPERS—for six City newspapers, and advertising in the same, as per contract, *nine hundred dollars*, - -	900
BELLS AND CLOCKS—for care and repairs of the Public Clocks, and for ringing six Bells, in different parts of the City, to denote the hours of the day, *one thousand dollars*, - -	1,000
Amount carried forward,	*$2,525*

Amount brought forward,	$2,525
BRIDGES—for Repairs of the Bridges belonging to the City, *five thousand dollars,* - - - - - -	5,000
BURIAL GROUNDS—for care and improvement of the Burial Grounds; Funeral Cars; building new Tombs, and the usual contingent expenes of that department, *one thousand dollars,*	1,000
COUNTY OF SUFFOLK—for the usual expenses of the County, such as expenses of Jurors and Witnesses, care and repairs of the County Buildings, &c., *fifty thousand dollars,* -	50,000
COMMON, &c.—for care and improvement of the Common and Malls, Fort Hill, Copp's Hill, and the Land in front of City Hall, *two thousand dollars,* - - - - - -	2,000
CITY DEBT—for the annual appropriation for the Reduction of the City Debt, as required by the ordinance of 28 December, 1840, *fifty thousand dollars,* - - - - - -	50,000
ENGINE HOUSES—for the erection, rent and repairs of Engine and Hook and Ladder Houses, *one thousand dollars,* - - - - - - -	1,000
EXTERNAL HEALTH DEPARTMENT—for expense of the Quarantine Establishment at Rainsford Island, being for repairs of the Buildings, sup-	
Amount carried forward,	$111,525

Amount brought forward,	$111,525
plies and repairs of the Quarantine Boat, &c. &c., *seven hundred dollars,*	700
FIRE DEPARTMENT—for the pay of members and the other contingent expenses of this Department, exclusive of Engine and Hook and Ladder Houses and the Salaries of the Chief Engineer and Clerk, *forty-eight thousand dollars,* - - - -	48,000
GAS FIXTURES—for new Fixtures, to extend the use of Gas in lighting the City, *two thousand dollars,* - -	2,000
HOUSE OF CORRECTION—for the gross expenditures of this establishment, all its income being paid into the City Treasury, *twenty-one thousand dollars,* - - - - -	21,000
HOUSES OF INDUSTRY AND REFORMATION—for the gross expenditures of these establishments, all the income from the same being paid into the City Treasury, *thirty-one thousand dollars,* - - - - -	31,000
INSTRUCTERS—for Salaries of the Instructers of the High and Latin and Writing and Grammar Schools, including the Teachers in Singing and Drawing, *ninety-six thousand and five hundred dollars,* - - - -	96,500
INTERNAL HEALTH DEPARTMENT—for the usual annual ex-	
Amount carried forward,	$310,725

Amount brought forward,	$310,725
penses of this department, which includes the Keeping of the Horses, Construction and Repairs of the Carts, Waggons and Harnesses used by the City,—and the general Expense of Sweeping and Cleaning the Streets, removing the House Offal, abating nuisances, &c. &c., *thirty-six thousand dollars,*	36,000
INCIDENTAL EXPENSES,—for miscellaneous charges and incidental expenses not properly chargeable to any other appropriation, *eighteen thousand dollars,*	18,000
INTEREST,—for payment of the annual interest on the City Debt, and on such temporary loans as may be required during the year, *sixty-two thousand dollars,*	62,000
LAMPS,—for the usual Expenses of the Street Lamp Department, including the salary of the Superintendent, *twenty-six thousand dollars,*	26,000
LUNATIC HOSPITAL,—for the gross expenditures of this Establishment—all its income being paid into the City Treasury, *thirteen thousand dollars,*	13,000
MARKET HOUSE,--for the contingent expenses of the Market establishment, such as fuel, lights, watchmen, &c., *twenty-five hundred dollars,*	2,500
Amount carried forward,	$468,225

Amount brought forward,	$468,225
MILITARY BOUNTY, for the payment of the State Bounty to the Volunteer Militia, which amount is refunded by the State, *forty-five hundred dollars,*	4,500
NEW GRAMMAR SCHOOL HOUSE, —for a new Grammar and Writing School House, to be erected on the City's Lands at the South part of the City,—*eighteen thousand dollars,*	18,000
OVERSEERS OF THE POOR,—for the gross expenditures by this Board —all their income being paid into the City Treasury, *fifteen thousand seven hundred dollars,*	15,700
OLD CLAIMS,—for the payment of Bills and Accounts which have been audited and allowed in former years, but not yet called for, *three thousand dollars,*	3,000
PRIMARY SCHOOLS,—for the usual annual expenses of about 122 Primary Schools, including the Salaries of the teachers, fuel, rent and repairs of School Rooms, &c. &c., *forty-two thousand and six hundred dollars,*	42,600
PRIMARY SCHOOL HOUSES,—for the purchase of land and the erection of two new Primary School Houses, *twelve thousand dollars,*	12,000
Amount carried forward,	$564,025

Amount brought forward,	$564,025
PAVING AND REPAIRS OF STREETS,—for the usual expenses of the Paving Department, exclusive of the Salary of the Superintendent of Streets, *fifty thousand dollars,* - - -	50,000
POLICE—for the general expenses of the Police Department, exclusive of the Salary of the City Marshal and his two Deputies, *ten thousand dollars,*	10,000
PUBLIC LANDS—for care and improvement of the Public Lands;—laying new Sewers and Drains through the same, filling up Lands west of Charles street, and preparing the Lands for sale, *ten thousand dollars,*	10,000
PUBLIC BUILDINGS—for repairs of all the Public Buildings and Wharves of the City, except the County Buildings and School Houses, *four thousand dollars,* - - - - - - -	4,000
PRINTING AND STATIONERY—for the Printing, Binding, and Stationery required by the City Council and in the Public Offices, *four thousand dollars,* - - - - -	4,000
RESERVOIRS—for building and repairing of Reservoirs for the use of the Fire Department, *five thousand dollars,*	5,000
RESERVED FUND—for this amount to be reserved for such purposes as the City Council shall hereafter direct,	
Amount carried forward,	$647,025

Amount brought forward,	$647,025
fifteen thousand nine hundred and seventy-five dollars, - - - - -	15,975
SCHOOLS—for fuel, repairs, and alterations of School Houses, and the other contingent Expenses of all the Schools except the Primary—including the furnishing of the new School Houses, *twenty thousand five hundred dollars,* - - - - -	20,500
SEWERS AND DRAINS—for building and repairing Common Sewers; and for care and repairs of the Wells and Pumps belonging to the City, *ten thousand dollars,* - - - - - -	10,000
SALARIES—for the payment of the Salaries of the City Officers, Judges and Clerks of the Police Court; and the permanent Clerk hire for the Treasurer, City Clerk, and Assessors, *thirty-eight thousand dollars,* - -	38,000
STATE TAX—for the City's proportion of the State Tax of $75,000, *twenty-five thousand and five hundred dollars,* - - - - - - -	25,500
UNLIQUIDATED STREET CLAIMS,—for the payment of outstanding claims against the City, for lands taken in former years to widen Streets, *twenty thousand dollars,* - - - - -	20,000
WIDENING AND EXTENDING STREETS—for Expenses of such	
Amount carried forward,	$777,000

Amount brought forward,	$777,000
Widening and Extending of Streets as can be made and *paid for* within this financial year, *fifty thousand dollars,*	50,000
WATCH DEPARTMENT—for the pay of Watchmen and other Expenses of the City Watch, including the Salary of the Captain, *fifty thousand dollars,* - - - - - -	50,000
WARD ROOM IN WARD 7,—for the erection of a new Ward Room and Watch House on the City's Land, corner of Williams' court and Court avenue, (*part of the "Rowe Estate"*) *nine thousand dollars,* - - -	9,000
	$886,000

And it is further ordered, That no excess in any of the respective Appropriations aforesaid, shall be allowed by the Auditor, or be paid by the Treasurer, unless authorized by the City Conncil; *provided, however*, that any sums of money which may be subscribed, or contributed, by individuals, to promote the objects of any of the foregoing Appropriations; and which form no part of the estimated income of the City, shall be strictly applied, according to the intention of the contributors, and shall be credited to said Appropriation accordingly.

An Estimate of the WAYS and MEANS of meeting the Expenditures of the CITY OF BOSTON and COUNTY OF SUFFOLK, for the financial year 1845–46, *commencing with the first day of May*, 1845, *and ending with the last day of April*, 1846.

RENTS—estimated amount to be received for Rents from all the Public Buildings, &c. - - - -		52,000
COUNTY OF SUFFOLK,—amount receivable on account of the County viz:		
For Licenses, Fees, &c., -	9,000	
From Commonwealth, in reimbursement of a portion of the County Expenses, -	6,000	15,000
FEES, &c.—amount receivable from the City Clerk, Hayweighers, and Superintendent of Burial Grounds—for Licenses, Recording Mortgages, publishing Intentions of Marriage, Weighing Fees, &c. &c. - -		4,000
HOUSE OF CORRECTION—amount which will probably be paid into the City Treasury, by the Overseers of this Institution, - - - -		10,000
HOUSES OF INDUSTRY AND REFORMATION——amount which		
Amount carried forward,		$81,000

Amount brought forward,	$81,000
will probably be realised from these institutions, exclusive of their claims for support of State Paupers,	5,000
INTEREST—estimated amount receivable on Bonds and Mortgages, Bank Deposits, &c.	8,000
INTERNAL HEALTH DEPARTMENT—probable amount to be received from the sales of House Offal, Street Dirt, &c.	6,000
MILITARY BOUNTY—amount receivable from the State, in reimbursement of what the City may have to advance on this account to the Volunteer Militia, under a law of the Commonwealth,	4,500
OVERSEERS OF THE POOR—estimated amount to be paid into the Treasury by this Board, exclusive of their account against the Commonwealth,	1,000
OUTSTANDING TAXES, &c.—estimated amount of Taxes for the year 1844, and previous years, and other debts already due the City, which will be realised this financial year,	10,000
PAVING DEPARTMENT—estimated amount receivable from sales of old materials, and from assessments on individuals for making Sidewalks, &c.	1,000
Amount carried forward,	$116,500

Amount brought forward,	$116,500
STATE PAUPERS—estimated amount receivable from the State for the support of State Paupers by our institutions,	25,000
SEWERS AND DRAINS—for assessments on individuals for proportion of the costs of new Sewers, and the right to enter into existing ones,	4,000
SCHOOL FUND—estimated amount of the City's proportion of the income from the School Fund of the State,	2,500
UNCLAIMED DRAFTS—estimated amount of accounts, &c., which will have been audited, allowed and drawn for by the Auditor against the appropriations of 1845–46, but which will not probably be called for during that financial year,	3,000
	$151,000

Estimated amount of income for the year 1845–46, independent of Taxes,—*one hundred and fifty-one thousand dollars.*

Amount of TAXES which it is deemed necessary to assess for the financial year 1845–46,	760,000
From which should be deducted for abatement and losses, and for the amount which will remain unpaid at the close of the financial year, say	25,000
Amount carried forward,	$735,000

Leaving a net amount to be *realized* from Taxes,—of - - - -	$735,000
To which add the estimated income from other sources—viz. - - -	151,000
And we shall have an amount equal to the estimated expenditures of the year, viz. - - - - - -	$886,000

CITY OF BOSTON.

An Order levying a Tax to defray the expenses of the City of Boston and County of Suffolk for the financial year, which will commence with the first day of May, eighteen hundred and forty five, and end with the last day of April, eighteen hundred and forty-six.

Ordered, That the sum of seven hundred and sixty thousand dollars be raised, by assessment on the Polls and Estates of the inhabitants of this City, according to law, to pay the current expenses of the City of Boston and County of Suffolk, during the financial year which will commence with the first day of May, eighteen hundred and forty five, and close with the last day of April, eighteen hundred and forty six.

CITY OF BOSTON.

Auditor's Office, 25th Feb'y, 1845.

In conformity with the requirements of the Ordinance of the 27th July, 1835, the Auditor of Accounts has the honor to submit to the City Council an Estimate of the Receipts and Expenditures for the next financial year, being from the first of May, 1845, to the last of April, 1846, inclusive.

The Amount of Expenditures, according to this estimate, will be . . .	$897,500
And the amount of the ordinary Receipts, exclusive of Taxes, will be	151,000
Which will leave a net balance of -	$746,500

To be raised by the usual mode of Taxation.

The details of the Estimates for the Overseers of the Poor and the Institutions at South Boston, having been furnished by their respective Boards, are annexed; and the Auditor asks leave to offer them as part of his Report.

All of which is respectfully submitted to the City Council.

E. COPELAND, Jr.,
Auditor of Accounts.

An Estimate of the amount of the money which will be required to defray the EXPENDITURES of the *City of Boston* and *County of Suffolk*,—for the financial year, 1845–46;—commencing with the first day of May, 1845, and ending with the last day of April, 1846.

ANNUITIES—for the payment of three annuities, viz: one for the purchase of George's and Lovell's Islands—and the others to persons having life estates in Lands taken for City improvements, - - - - -	625
ADVERTISING AND NEWSPAPERS,—for Advertising in six Daily Newspapers, as per contracts, - - -	900
BELLS AND CLOCKS,—for care and repairs of the Public Clocks, and for Ringing certain Bells to denote the hours of the day, - - - -	1,000
BRIDGES,—for repairs of the Bridges belonging to the City, - - -	5,000
BURIAL GROUNDS, &c.—for care and improvement of the Burial Grounds; building new Tombs, and the usual contingent expenses of this department, - - - - -	1,000
Amount carried forward,	$8,525

Amount brought forward,	$ 8,525
COUNTY OF SUFFOLK,—for County Expenses—including the care and repairs of the County Buildings, Expenses of the Courts, &c.	50,000
COMMON SEWERS,—See Sewers and Drains.	
COMMON, &c.—for care and improvement of the Common and Malls, Fort Hill, Copp's Hill and Land in front of City Hall,	2,000
DEBT,—for the annual Appropriation, as per Ordinance, for the reduction of the City Debt,	50,000
ENGINE AND HOOK AND LADDER HOUSES,—for the erection rent and repairs of Engine and Hook and Ladder Houses,	1,000
EXTERNAL HEALTH DEPARTMENT,—for Expenses of the Quarantine Establishment at Rainsford Island, being for repairs of Buildings; supplies and repairs of the Quarantine Boat, &c.	700
FIRE DEPARTMENT,—for the expenses of this Department, exclusive of Reservoirs, Engine and Hook and Ladder Houses and Salaries of the Chief Engineer and Clerk,	50,000
GAS FIXTURES,—for new fixtures, lamps, &c., for extending the use of Gas in lighting the City,	2,000
Amount carried forward,	$164,225

Amount brought forward,	$164,225
HOUSE OF CORRECTION,—for the gross expenses of this Establishment all its income being paid into the City Treasury, - - - - - -	21,000
HOUSES OF INDUSTRY AND REFORMATION,—for the gross expenses of these Establishments—all the income from them being paid into the City Treasury, - - - -	31,000
INSTRUCTERS—for Salaries of the Instructers, including Music and Drawing, for all the Schools, except the Primary Schools, - - -	96,500
INTERNAL HEALTH DEPARTMENT—for the expenses of this Department, including the Sweeping of Streets, removing the House Offal, abating nuisances, &c., - - -	40,000
INTEREST,—for payment of the interest on the permanent Debt of the City, and on such temporary loans as may be required during the financial year, - - - - - - -	62,000
INCIDENTAL EXPENSES,—for those incidental expenses and miscellaneous claims which are not chargeable to any other appropriation, -	18,000
LAMP DEPARTMENT,—for Oil, Gas and other expenses of Lighting the City, including the Salary of the Superintendent of Lamps, - -	26,000
Amount carried forward,	$458,725

Amount brought forward,	$458,725
LUNATIC HOSPITAL,—for the gross expenditures of this department, exclusive of the salary of the Superintendent, - - - - -	13,000
MARKET HOUSE,—for the incidental Expenses of this establishment, including Fuel and light, but exclusive of the Salary of the Clerk of the Market,	2,500
MILITARY BOUNTY, for the payment of the State Bounty to the Volunteer Militia, which is advanced by the City and refunded by the State, -	4,500
NEW GRAMMAR SCHOOL HOUSE,—for the purchase of Land and the erection of a new Grammar School House on the Neck Lands, - -	25,000
OVERSEERS OF THE POOR,—for the gross expenditures of this Board —all their income being paid into the City Treasury, - - - -	15,700
OLD CLAIMS,—for the payment in this financial year of audited and allowed accounts of previous years—but not called for in those years, -	3,000
PRIMARY SCHOOLS,—for the usual annual expenses of the Primary Schools, including the Salaries of the teachers, rent of Rooms, Fuel, &c., -	42,600
PRIMARY SCHOOL HOUSES,—for the purchase of land and the erection of three new Primary School Houses,	
Amount carried forward,	$565,025

Amount brought forward,	$565,025
which are asked for by the Primary School Committee, - - -	18,000
PUBLIC BUILDINGS—for repairs of the Public Buildings and Wharves, to be expended under the direction of the Committee on Public Buildings, -	2,500
PUBLIC LANDS—for care and improvement of the Public Lands including the filling up of Lands for Streets, &c., west of Charles street, and making new Sewers and Drains on said Lands, - - - - -	6,000
PAVING AND REPAIRS OF STREETS, —for the expenses of this Department including the keeping of Horses, &c., - - - - - -	50,000
POLICE—for the expenses of the Police Department, - - - -	10,000
PRINTING AND STATIONERY—for the Printing, Binding, Stationery, &c., for the City Council and the Public Offices, - - - -	3,000
RESERVOIRS—for the Construction of new Reservoirs for the use of the Fire Department, - - - -	5,000
RESERVED FUND—for this amount reserved for such purposes as the City Council may hereafter direct, -	15,475
SCHOOLS—for fuel, repairs, and alterations in School Houses, and other contingent Expenses of all the	
Amount carried forward,	$675,000

Amount brought forward,	$675,000
Schools except the Primary Schools, including the furnishing of the new School Houses, - - - -	19,000
SEWERS AND DRAINS—for building and repairing Common Sewers; and for care and repairs of the Wells and Pumps belonging to the City, - -	10,000
SALARIES—for the payment of the Salaries of the City Officers, and Judges and Clerks of the Police Court; and permanent Clerk hire in the Treasurer and City Clerk's Offices, - -	38,000
STATE TAX—for the City's proportion of the seventy-five thousand Dollars State Tax, - - -	25,500
UNLIQUIDATED CLAIMS,—for the payment of outstanding claims against the City, for widening and Extending Streets in former years, -	30,000
WIDENING AND EXTENDING STREETS—for Expenses of Widening and Extending Streets *to be made and paid for the current year,* -	50,000
WATCH DEPARTMENT—for the Expenses of the City Watch Department, including the Salary of the Captain of the Watch, - - -	50,000
WELLS AND PUMPS,—see common Sewers.	
	$897,500

Making the amount of money which it is deemed necessary to be raised for the purposes of the financial year 1845–46—*eight hundred and ninety-seven thousand and five hundred dollars*, say, $897,500,00.

Auditor's Office,
25th February, 1845.

E. COPELAND, Jr.,
Auditor of Accounts.

An Estimate of the WAYS and MEANS of meeting the Expenditures of the *City of Boston* and *County of Suffolk*, for the financial year, 1845–46—commencing with the first day of May, 1845—and ending with the last day of April, 1846.

COUNTY OF SUFFOLK—amount to be received from the County for Licenses, Court Fees, &c.	9,000	
Amount to be received from the Commonwealth, for a portion of the County Expenses, -	6,000	
		15,000
COMMON SEWERS,—for assessments on individuals for proportion of the Costs of new Common Sewers and the right to enter into old ones, - -		4,000
Amount carried forward,		$19,000

Amount brought forward,	$19,000
FEES, &c., probable amount which will be received from the City Clerk, Hayweighers and Superintendent of Burial Grounds,—for Licenses, recording Mortgages, Weighing Fees, publishing Intentions of Marriage, &c.	4,500
HOUSE OF CORRECTION—amount which will probably be realised from this Institution from labor of inmates, &c.	10,000
HOUSES OF INDUSTRY AND REFORMATION—amount which will probably be paid into the Treasury by these Institutions, exclusive of their accounts against the State,	5,000
INTEREST,—estimated amount of Interest to be received on Bonds and Mortgages, and on balance of Bank Deposits,	8,000
INTERNAL HEALTH DEPARTMENT—probable amount to be furnished by this Department, from Sales of House Offal, Street Manure, &c.,	6,000
MILITARY BOUNTY,—amount receivable from the State in reimbursement of what the City may have to advance on this account to the Volunteer Militia, under a law of the Commonwealth,	4,500
OVERSEERS OF THE POOR,—estimated amount to be paid into the Treasury by this Board, exclusive of	
Amount carried forward,	$56,500

Amount brought forward,	$56,500
their demands against the Commonwealth,	1,000
OUTSTANDING TAXES, &c.—estimated amount of old Taxes, and other debts due the City, which will be received during this year,	10,000
PAVING DEPARTMENT,—probable amount to be realized from the Sales of old Materials, and from assessment on individuals, for making Sidewalks, &c.	1,000
RENTS,—–estimated revenue from Rents from all the Public Buildings, &c.	52,000
STATE PAUPERS,--estimated amount to be received from the Commonwealth, for support of State's Poor in our Institutions,	25,000
SCHOOL FUND,—estimated amount of the City's proportion of the State School Fund, to be received from the Commonwealth,	2,500
UNCLAIMED DRAFTS,—estimated amount which will have been drawn for by the Auditor on the Treasury, against the appropriations of 1845–46, but which will not be called for till after the commencement of the next financial year,	3,000
	$151,000

Estimated amount of Income, independent of Taxes, for the financial year 1845–46 - - - - -		$151,000
Amount of Taxes which it is deemed necessary to assess for that year,	783,500	
From which should be deducted for abatements and losses, and for the amount which will remain uncollected at the close of the year, say,	37,000	
		746,500

Leaving a net amount of Cash to be *realized* by the Treasury from the Taxes of the year, and *available for that year's service of* $746,500—which added to the estimated income from other sources—makes a total of Eight hundred and ninety-seven thousand Dollars, which is the amount of the estimated wants of the year.

Auditor's Office, 25th February, 1845.

E. COPELAND, Jr.,
Auditor of Accounts.

In Common Council, February 27, 1845.

Referred to Messrs. Hayden, Curtis, A. T. Hall, Whittemore, Seaver, Denny, and Boynton, with such as the Board of Aldermen may join.

Sent up for concurrence.

P. W. CHANDLER, *President.*

In the Board of Aldermen, March 3, 1845.

Read and concurred, and the Mayor, Aldermen Leavitt, Pope, Hathaway and Perkins were joined.

THOMAS A. DAVIS, *Mayor.*

Estimate of Appropriation for the *Overseers of the Poor of this City*, commencing May 1st, 1845, and ending April 30th, 1846.

For Burials of City, State and other Paupers,	1,000
Expenses of City Paupers in other Towns and Cities,	1,100
Secretary's Salary,	800
Stationery and Postage,	100
Disbursements in the several Wards,	12,700
	$15,700

ESTIMATED RECEIPTS.

From Towns for the support of their Paupers,	$1,000

DANIEL HENCHMAN,
JOSEPH MORIARTY, } *Committee.*
JOSEPH EUSTIS,

Boston, Feb. 21, 1845.

Estimate of Appropriation for the *House of Industry* (including House of Reformation) for the financial year which will commence May 1st, 1845.

For Provisions, $14,000; Clothing, 3,000,	$17,000
Fuel and Light, 2,800; Funiture and Bedding, 1,200,	4,000
Amount carried forward,	21,000

Amount brought forward,	$21,000
Hospital Stores and Medicine,	1,000
Salaries, 4,000 ; Junk, 1,000,	5,000
Feed for cattle, and Agricultural expenses,	1,800
Materials for repairs, and lumber for Coffins,	1,200
Transportation of Paupers and incidental expenses,	1,000
	$31,000

Estimated Receipts, besides compensation for State Paupers.

Sales of Vegetables and Fruit,	1,800
Sales of Oakum,	2,000
Collections from Towns,	400
Labor of Boys and sales of small articles,	800
	$5,000

Respectfully submitted.

DANIEL HENCHMAN,
ARTEMAS SIMONDS,
ALFRED A. WELLINGTON,
Committee of Directors.

Boston, Feb. 21, 1845.

Estimate of Appropriation for the *House of Correction*, for the financial year, which will commence on the first day of May, 1845.

Victualing Prisoners,	8,000
Salaries,	4,000
Fuel and Lights,	2,000
Clothing and Bedding,	1,600
Supplies for Master's House, including Board of Officers and Matrons	12,000
New Copper Gutters for House,	1,000
Repairs of Buildings,	850
Salary Rev. Charles Cleveland, Chaplain,	600
Stock for Manufactoring, including Lumber for Coffins, for Overseers of Poor,	400
Agricultural Department,	300
Printing, Stationery, Postage and Incidental Expenses,	200
Medical Department,	200
Furniture,	200
Carriage hire for Sunday School,	150
Carriage hire for Overseers,	150
Transportation of Supplies,	150
	$21,000

Estimated Receipts.

Labor of Prisoners in Stone Shop,	2,500
Labor of Prisoners in Foundry,	2,200
Labor of Prisoners in Button Shop,	1,000
Amount carried forward,	$5,700

Amount brought forward,	$5,700
Labor of Female Prisoners,	2,000
All other labor and income,	1,500
Towns for support of Prisoners,	800
	$10,000

Office of the Overseers
of the House of Correction,
February 20, 1845.

WILLIAM T. ANDREWS,
URIEL CROCKER,
BILLINGS BRIGGS,
JOSEPH MORIARTY,
Overseers House of Correction.

To E. Copeland, Jr. Esq., *Auditor.*

City Document—No. **17.**

CITY OF BOSTON.

STEAM ENGINES AND FURNACES.

In Common Council, April 24, 1845.

Read, laid on the table and ordered to be printed, together with the Act of the Legislature.

Attest, W. P. Gregg, *Clerk C. C.*

CITY OF BOSTON.

In the Board of Aldermen, April 21, 1845.

Resolved, That an Act entitled "An Act regulating the use of Steam Engines and Furnaces," passed by the General Court of this Commonwealth, on the twenty-fifth day of March, in the year one thousand eight hundred and forty five, be, and the same hereby is adopted by the City Council of this City.

Sent down for concurrence.

THOMAS A. DAVIS, *Mayor*.

AN ACT

Regulating the use of Steam Engines and Furnaces.

Be it enacted by the Senate and House of Representatives, in General Court assembled, and by the authority of the same, as follows:

Sect. 1. No furnace for melting of iron, or stationary steam engine, designed for use in any mill for the planing or sawing of boards, or turning of wood, in any form, or when any other fuel than coal is used to create steam, shall hereafter be erected, or put up to be used, in any city or town in this Commonwealth, unless the Mayor and Aldermen of such city, or Selectmen of such town, shall have previously granted license therefor, designating the place where the building or buildings shall be erected, in which such steam engine or furnace shall be used, the materials and construction thereof, and such other provisions and limitations, as to the height of flues, and protection against fire, as they shall judge necessary for the safety of the neighborhood; such license to be granted on written application, and to be recorded in the records of such city or town.

Sect. 2. Whenever the Mayor and Aldermen of any city, or the Selectmen of any town, after due notice, in writing, to the owner of any such steam engine or furnace *heretofore erected, or in use*, and a hearing of the matter, shall adjudge the same to be dangerous, or a nuisance to the neighborhood, they may make and record an order, prescribing such rules, restrictions and alterations, as to the building in which such steam engine or furnace is constructed or used, the construction and height of its smoke flues, or other provisions, as they shall deem the safety of the neighborhood to require; and it shall be the duty of the city or town clerk to deliver a copy of such order to a constable, who shall serve such owner with an attested copy thereof, and make return of his doings thereon to said clerk, within three days from the delivery thereof to him.

Sect. 3. Any such engine or furnace hereafter erected without license, made and recorded as aforesaid in section first, shall be deemed and taken to be a common nuisance, without any other proof thereof than proof of its use; and any steam engine or furnace used contrary to the provisions of section second, of this act, shall be taken and deemed to be a common nuisance.

Sect. 4. The Mayor and Aldermen of any city, or Selectmen of any town, shall have the same power and authority to abate and remove any such steam engine or furnace erected or used contrary to the provisions of this act, as are given to the Board of Health, in the tenth and eleventh sections of the twenty-first chapter of the Revised Statutes.

Sect. 5. Whenever application shall be made for license, as aforesaid, the Mayor and Aldermen of any city or Selectmen of any town, shall assign a time and place for the consideration of the same, and shall cause public notice thereof, to be given at least fourteen days beforehand, in such manner as said Mayor and Aldermen, or Selectmen, may direct, and at the expense of the applicant, in order that all persons interested may be heard before the granting of a license.

Sect. 6. Any owner of a steam engine, or furnace, aggrieved by such order as provided in section second of this act, may apply to the Court of Common Pleas, if sitting, in the County in which such engine, or furnace, is situated, or to any Justice thereof, in vacation, for a jury, and such Court or Justice shall issue a warrant for a jury, to be empannelled by the Sheriff, in the same manner as is provided in the twenty-fourth chapter of the Revised Statutes, in regard to the laying out of highways; such application shall be made within three days after such order is served upon the said owner; and the said jury shall be empannelled within fourteen days from the issuing of said warrant.

Sect. 7. Upon any application to said Court of Common Pleas, or to any Justice thereof, for a jury, said Court or Justice, on granting the same, may, in its or his discretion, issue an injunction restraining the further use of said engine or furnace, until the final determination of such application by the jury and court to which such verdict may be returned.

Sect. 8. The jury shall find a verdict either affirming or annulling the said order in full, or making alterations therein, as they may see fit; which verdict shall be returned to the next term of said Court by the Sheriff for acceptance, in like manner as in the case of highways, and, being accepted, shall be binding to the same effect as the original order would be without such appeal.

Sect. 9. If the verdict shall affirm such order, costs shall be recovered by the city or town against such applicant; if the verdict shall annul such order in whole, damages and costs shall be recovered by the complainant against such city or town; and in case the verdict shall alter such order in part, the Court may render such judgment as to costs, as to justice shall appertain.

Sect. 10. This act shall not be in force in any town or city, unless the inhabitants of the town, or the City Council of the City, shall adopt the same at a legal meeting of said inhabitants, or City Council, called for that purpose.

Sect. 11. This act shall take effect from and after its passage.

[Approved by the Governor, March 25, 1845.]

City Document—No. 18.

CITY OF BOSTON.

SICUT PATRIBUS SIT DEUS NOBIS
BOSTONIA
CONDITA A.D.
1630.
CIVITATIS REGIMINE DONATA A.D. 1822.

JAIL.

In Common Council, April 24, 1845.

This Report was laid on the table, and ordered to be printed, with the accompanying Order; said Order having been read a first time and passed to a second reading.

Attest, W. P. Gregg, *Clerk C. C.*

CITY OF BOSTON.

In Common Council, February 13, 1845.

Ordered, That Messrs. Hillard, Willis, Dutton, Buttrick and Sampson, with such as the Board of Aldermen may join, be a Committee to consider and report upon the expediency of erecting a new Jail.

Sent up for concurrence.

P. W. CHANDLER, *President.*

In the Board of Aldermen, February 15, 1845.

Read and concurred, and the committee on the part of this Board, on the Jail, &c. was joined.

WILLIAM PARKER,
Chairman Board of Aldermen pro tem.

The Joint Special Committee, who were appointed "to consider and report upon the expediency of erecting a new Jail," have attended to that duty, and ask leave to

REPORT:

It is now some ten years since the subject of rebuilding the Leverett Street Jail in its present location, or on the City's land at South Boston, has been up, more or less for discussion, before the City Council, and were it not for the changes annually made in the members of the City Government, and the consequent want of information by many of them of the facts in the case, the Committee would hardly think it necessary to give a detailed report. As it is, they propose to present merely a brief outline of some of the leading facts.

The Leverett Street Jail, it is well known, was built without any of the modern improvements. It admits of no adequate supervision, the office of the keeper not being connected with it. It admits of no employment; the prisoner is left to brood in melancholy over the past, or to devise new plans for crime. It admits of no moral or religious instruction. It has no chapel or place of assembling for religious worship. It is imperfectly lighted, heated and ventilated. The cookery is inconveniently located. The security against escape is imperfect. It admits of no classification of prisoners; debtors, witnesses, untried persons, old men, boys, keepers of houses of ill-fame and all others are intermingled.

Again, the Leverett Street Jail is obnoxious to the citizens of the ward in which it is located. It is in the midst of a populous City whose inhabitants are more or less exposed to the bad influences of the prisoners. It is the only building of the kind in the City. It occupies forty-three thousand feet of land, which is worth, upon an average, one dollar and fifty cents a foot, whereas a new Jail, with all the modern improvements, can be erected at a sum less than forty thousand dollars, thus making, by a removal and reconstruction, a decided net gain to the City.

One Committee after another of the City Council in succession, have reported in favor of a removal of the Jail in Leverett Street. In 1836, a Committee of which, Mr. Armstrong, then Mayor, was Chairman, was appointed to consider and report on the subject. In their report they say, " your Committee having fully settled in their own minds the necessity of having a prison of a different construction, it remains for them to state their opinion as to its proper location. Shall it be in Leverett Street or elsewhere? The land in Leverett Street has become very valuable, near the centre of business, amid a crowded population. It comprises about forty-three thousand feet, as appears by the plan, and would now find a ready sale at a good price. There are, as your Committee believe, great advantages in having all the buildings of this nature, belonging to the City, near to each other, and they are of opinion that the land on Leverett Street should be sold, together with the dwelling house and court house, and that there should be erected at South Boston, a new Jail and a Keeper's House. The materials of the present Jail and old House of Correction could be removed and used in the new Jail. The labor of the prisoners in the House of Correction might be made available in such an operation to good effect and with economy. The estimate which has been made states the expense of the necessary buildings at about twenty-four thousand dollars."

Nothing having been accomplished towards the removal and rebuilding of the Jail under the Mayoralty of Mr. Armstrong, Mr. Eliot, his successor, in his first inaugural address, urged upon the City Council the importance of taking immediate steps towards the erection of a new Jail with the modern improvements.

As Chairman of a Committee to whom was referred the subject of rebuilding the Jail, Mr. Eliot reports; "They" (the Committee) "have weighed as carefully as they were able, the several arguments and suggestions which have been used both for and against the removal of the Jail from Leverett Street to Bellevue,* and, after the best consideration in their power, they have been unable to regard the additional inconvenience, risk, or expense, attending the conveyance of prisoners to Bellevue, as a counterbalance to the present Jail, the impure air, the cold, the heat, to which they are constantly or occasionally subjected. The Committee cannot but consider it also as a great desideratum in a Jail that an opportunity should be afforded for employment, if desired, by the prisoner; for religious exercises on the Sabbath at least, and for suitable care of the sick. In the present Jail, all these, if not impossible, are so difficult to be obtained, as to render it in the highest degree expedient, in the opinion of the Committee, that a new building should be erected for the purpose. They concur entirely with the views so strongly expressed on these points in the report of the City Council of the last year, who had the subject under consideration."

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* South Boston.

Notwithstanding the persevering efforts made by Mr. Eliot, during his administration, to have the Jail removed from Leverett Street to South Boston, and rebuilt in the modern style, nothing was done. Mr. Chapman, the next Mayor, took up the subject and went into it in earnest and with the like result of his predecessors.

During Mr. Chapman's administration the Jail was again presented by the Grand Jury as an evil requiring correction. The presentment is as follows:—"The Grand Jury, in addition to the indictments found by them at this term, beg leave to present to the Court, that from facts and circumstances which have come to their knowledge, they are convinced of and do present, as a great evil, which ought forthwith to be corrected—the extreme facility of communication by word of mouth and by correspondence, between prisoners confined in the Leverett Street Jail. This communication is so easy and unrestricted, that no one in the cells or passages can avoid hearing obscene and profane language;—it enables the profligate to corrupt the penitent; encourages the young in the progress and arts of iniquity; facilitates escapes, and matures plans for future crime. This communication, the Keeper of the Jail states, he cannot prevent in the present edifice and under the existing laws. He also states that blankets, tools, letters, money, watches, and stolen property of various kinds could be passed without his knowledge from one cell to another, through every cell in the building, or from one prisoner to another, without detection, to the great detriment of public justice. Under these circumstances the Grand Jury feel it to be their duty to call the attention of this Court to this evil, as one of sufficient magnitude to require an early remedy and they respectfully request the Court to send to the Mayor and Aldermen a certified copy of this presentment, that those whose duty it may be, may, without delay, take the necessary measures to correct the evil."

Neither this formal presentment of the Leverett Street Jail by the Grand Jury as an evil to be corrected, nor the efforts of Mr. Chapman, could bring about the desired result. Not despairing of success, Mr. Brimmer, on succeeding to the Mayoralty, in his first inaugural address, says: "The first subject to which I feel it my duty to draw your attention, is the situation and construction of the County Prison. The Jail for the County of Suffolk stood, within the recollection of most of us, in the immediate vicinity of this place. The increase of population demanded a new erection further from the centre of business, and more in conformity with the improvements of the age. In the year 1819, the County determined to erect a new Prison, and a commission was appointed, who brought to the subject all the information and experience which the times possessed, and all the devotion which the subject required. The Jail, when built, was doubtless considered the model Prison of the times. It is as unreasonable to demand of them the improvements of later years, as to complain of the navigator of forty years since, that he did not navigate the ocean by steam. But, gentlemen, the times are changed and we must conform to the advancements of the age."

After stating the leading objections to the present Jail—the same generally as enumerated by your Committee—Mr. Brimmer continues under this head as follows. "This subject has been repeatedly presented for your consideration by my two immediate predecessors. Three times within the last four years has the County Jail been presented by the Grand Jurors, selected from among our fellow citizens for its mal-construction. In the year 1833, a commission was appointed by the Legislature to examine and report upon the several Jails and Houses of Correction of this Commonwealth. In a very able report made in February, 1834, are the following remarks in reference to the Suffolk County Jail. 'Its construction is about as bad as that of the old State Prison at Charlestown, the rooms being of similar size, form, &c.; and the arrangement such as to *bar all inspection.* In this building too many debtors are confined, and it is impossible to prevent evil communication from the apartments of pirates, highwaymen and murderers, with debtors, as the case may be, of pure minds and heavy misfortunes. In addition to this, females may be, and are often confined in this building and sometimes of such a character, that one of them, in the language of a subjailor, makes a *hell of the whole establishment.* And it is not impossible that males and females of pure minds should be confined in this Prison; because we have seen that during the year ending September, 1833, more than a seventh part were females, and more than a fourth part were discharged by the Court *as not guilty.* On the whole, considering the number of persons committed to this Prison annually, its construction and management, we think it the heaviest weight upon the public morals which we have seen, or heard of in the Commonwealth.' "

Thus your Committee, instead of repeating the facts which have been presented again and again to the City Council in reference to the Leverett Street Jail, have quoted from several intelligent Committees who have had the subject under consideration, that the greater weight might be given to the opinion of the many. All, it will be perceived, have come to the same conclusion, namely, that the Jail is a bad one, that it is badly located, and of necessity badly managed, and that it ought to be removed and rebuilt with the modern improvements.

The Committee believe that a Jail, every way desirable, could be erected at South Boston at a sum less than forty thousand dollars; they believe also that the land on Leverett Street, with the several buildings, could be sold at a sum so far exceeding the cost of a new Jail, that, in a pecuniary point of view, the City would be a gainer by the operation. The Committee would therefore submit the accompanying Order.

For the Committee,

THOMAS A. DAVIS, *Chairman.*

Ordered, That the Joint Committee on Public Buildings be, and they hereby are instructed to report, as soon as practicable, plans and estimates for the construction of a new Jail, with the modern improvements, to be located at South Boston.

City Document—No. 19.

CITY OF BOSTON.

HOUSES OF INDUSTRY AND REFORMATION.

In Common Council, April 24, 1845.

Laid on the table, and ordered to be printed.

Attest, W. P. Gregg, *Clerk C. C.*

ANNUAL REPORT

OF THE DIRECTORS OF THE

HOUSES OF INDUSTRY AND REFORMATION,

APRIL 1845.

To the Honorable Mayor, Aldermen and
Common Council of the City of Boston.

In obedience to law and usage, the Directors of the Houses of Industry and Reformation, herewith present statements of the Expenditures and Receipts, and in relation to the number, employment and condition of the inmates of the Institutions, for the year ending March 31, 1845.

The accounts show that the gross expenditure for the year past, has been $\$29,151\frac{12}{100}$, and the income arising from sales of oakum, fruit and vegetables, and other sources, paid into the City Treasury by the Directors, has amounted to $\$5,471\frac{52}{100}$. The City has also received from the Commonwealth for the support of State paupers in the Houses, the sum of $\$10,165\frac{68}{100}$, so that the actual cost to the City for supporting in-door poor and juvenile offenders has been $\$13,513\frac{92}{100}$. Within the year more than usual repairs of the buildings have been required. Some expense has also been incurred in bringing a supply of soft water to the buildings, from a distant part of the farm, by an aqueduct. Besides the immediate convenience and advantages thus secured, an increased security against fire is obtained, by keeping large reservoirs filled with water. The reduction of current expenses have been occasioned by the gratifying fact that a less number have claimed entire support of the public than in many past years. The present number of inmates of the House of Industry is less by *seventy-seven* than on the first of April, 1830, although the whole population of the City has increased sixty per cent. since that period. The present number of in-door paupers would have exceeded one thousand at this time, instead of five hundred and sixty one, had they increased in a ratio equal to population. Formerly, however, poor lunatics were supported in the Alms House; and the hundred patients of the Boston Lunatic Hospital are to be numbered among the dependents on the City, for whose maintenance and comfort, suitable provision has wisely and humanely been made. Other philanthropic institutions of recent origin have doubtless provided for some that otherwise would have been public paupers. The House of Industry is becoming from year to year more the resort for only the sick, disabled, and helpless, and less a mere workhouse for able bodied and vagrant poor. So few of the present inmates are capable of effective labor that it is with difficulty the house and grounds are kept in the good order desired. Under these circumstances, more hired assistance is required than formerly.

The Boylston School, occupies excellent accommodations in the east wing of the House of Reformation Building, and contains about one hundred boys between the ages of six and thirteen years. In this interesting department, under faithful instruction and care, are boys of humble origin but promising capacity who are making commendable progress in common school studies. If placed at proper age in suitable families and employment, their future prospects of respectability and usefulness are perhaps as fair as that of any other school or class of lads. The children in the Primary School for girls and younger boys in the Asylum Building, receive, it is believed, faithful teaching and kind care.

It is nearly four years since the House of Reformation for Juvenile Offenders, was made, in some respects, a part of the House of Industry, and its management committed to the same officers. This department occupies the west wing of the House of Reformation Building, where the accommodations are ample for seventy-five or eighty boys. The average number the year past, has only been about fifty. A considerable number of these, it is expected may soon be apprenticed, under favorable circumstances.

The children in the House of Reformation are kept under a constant, but mild discipline. They are well fed and clothed. Four hours in each day they are in school giving attention to the common and useful branches of education. Such as have the physical strength are required to labor six hours daily. Employment and constant supervision are much relied on as means of effecting a moral reformation in character. Sufficient time is allowed for ablutions, devotional exercises, meals, recreations and sleep. Many of the boys have a taste for useful reading, and highly value their privilege of access to a good library.

In reference to this department, the Inspectors of Prisons in their last Semi-annual Report, Dec. 1844, remark, " this house continues to be a scene of order, decorum, neatness, active industry, cheerful obedience, religious observances; successful instruction in the branches of education, taught in the common schools of the Commonwealth; some cultivation of the art of vocal music and due recreation. This Institution has a most salutary influence in withdrawing children from the haunts of vice and crime, and reclaiming them, and putting them in the way of becoming respectable men, and useful citizens; and it is matter of regret that many more of the children who are permitted to spend their time in the streets in idleness, in learning and practising mischief, vices and petty offences, are not brought within its beneficent discipline, instead of being left to qualify themselves, by degrees, for the House of Correction."

It may not be generally known, especially by parents who neglect the salutary control of their children, that the Municipal and Police Courts have not only the power to commit to the House of Reformation, children and youth convicted of serious offences, but also "any child or children that live an idle and dissolute life," their parents being dead, "or, if living, *do from vice, or any other cause, neglect to provide suitable employment for, or exercise salutary control over such child or children.*" A greater regard to this law, without crowding the House of Reformation, might induce parents to a better care of their offspring, and save many from moral degradation.

Respectfully submitted.

JOSEPH LEWIS,
DANIEL HENCHMAN,
JAMES MEANS,
ARTEMAS SIMONDS,
THOMAS HOLLIS,
NATHANIEL H. EMMONS,
THOMAS TARBELL,
SAMUEL LEEDS,
ALFRED A WELLLINGTON.
} *Directors.*

Boston, April 24, 1845.

EXPENDITURES

On Account of the Houses of Industry and Reformation, from April 1, 1844 to March 31, 1845.

Flour, 724 barrels, - -		4,255	01		
Salt Beef and Pork, 6 bbls.		52	12		
Corn,	1,000 bushels,	545	00		
Beans,	90 "	154	36		
Potatoes	1,911 "	357	47		
Fresh Beef,	68,181 lbs. -	1,728	99		
Fish,	15,480 " -	452	15		
Rice,	11,043 " -	368	26		
Sugar,	2,040 " -	160	50		
Coffee,	3,271 " -	203	57		
Tea,	791 " -	207	87		
Chocolate,	4,844 " -	484	40		
Butter,	1,520 " -	242	87		
Snuff and Tobacco, 971 lbs.		132	06		
Molasses,	6,757 galls. -	1,859	11		
Milk,	1,514 " -	250	16		
Baker's wages, - - -		68	00		
Hospital Stores, small groceries, and supplies for the Officers' tables, of both houses, - - -		744	79		
				12,266	69
Sheeting and Shirting,	5,231 yds. -	424	73		
Prints,	875 " -	92	77		
Stripe,	1512 " -	166	40		
Furniture check, 169 yds. -		23	34		
Amount carried forward,				12,266	69

Amount brought forward,			$12,266 69
Frocking,	420 yds.	133 76	
Satinett,	514 “	345 63	
Denims,	357 “	49 45	
Linsey,	65 “	16 31	
Jean,	112 “	22 40	
Hard Times,	371 “	74 25	
Burlaps,	624 “	95 34	
Flannel,	72 “	22 88	
Various cloths,	267 “	19 46	
Thread,	52 lbs.	39 57	
Yarn,	97 “	54 51	
Cotton Batting,		17 34	
Socks and Mittens,		41 48	
Materials for Caps,		23 11	
Handkerchiefs, Buttons, &c.		38 83	
Shoes and Leather,		706 07	
			2,407 63
Medicine,		716 99	
Oil,	535 galls.	485 24	
Wood,	177 cords,	764 99	
Hard Coal,	332 tons,	1610 86	
Soft “	39¾ “	293 54	
Carpeting,		116 36	
Card Table,		11 00	
Straw for Beds,		69 54	
			4,067 52
Lumber,	28446 feet,	375 52	
Brick,	19950	147 19	
Slating roof,		64 66	
Painting and Glazing,		120 87	
Copper Gutters,		486 65	
Repairs of furnace,		11 82	
Amount carried forward,			$18,741 84

Amount brought forward,		$18,741 84
White washing and Brushes,	24 50	
Iron,	24 15	
Mason's work,	115 75	
Carpenter's work,	167 38	
Paints and Glass,	160 49	
Lead Pipe and laying Aqueduct,	255 82	
Cement, 26 casks,	65 00	
		2,019 80
Wooden Ware,	75 51	
Crockery and Glass Ware,	53 87	
Hard Ware,	148 37	
Stoves and Grates,	77 16	
		354 91
Hay, 80,421 lbs.	518 46	
Oats, 324 bush.	120 75	
Farming Utensils,	99 57	
Manure,	184 80	
Trees,	38 75	
Horses purchased,	258 53	
Shoeing Horses and Smith Work,	100 21	
Seeds,	25 90	
Waggons and Repairs of Wagons,	189 58	
One year's rent of Land,	50 00	
Cedar Posts and Poles,	22 50	
1 Bull, 20 ; labor 15 75	35 75	
		1,644 77
Postages, Stationery, and incidental expenses,	126 46	
Amount carried forward,		$22,761 32

Amount brought forward,		$22,761 32
Removal of Paupers out of State,	33 00	
Carriage hire for Directors,	97 00	
School Books,	104 96	
3646 lbs. Tallow for Soap,	204 87	
3227 " Potashes,	172 23	
Health Department, conveying Paupers to the House,	225 75	
1380 bushels house Sand,	57 00	
16,433 lbs. Junk,	660 79	
Salaries of the Superintendent, and five male and five female Assistants at both Houses,	4,707 84	6,389 90
Total gross expenses,		$29,151 22

RECEIPTS

On account of Houses of Industry and Reformation, for the year ending March 31st, 1845.

From Towns, &c. for support of Paupers,	310 09
Sales of Vegetables and fruit,	1,668 93
" Oakum,	2,304 64
" old casks and sundries,	57 81
" Pigs,	46 00
" Wood,	54 00
" Cows and Bull,	130 21
Labor of Inmates drying gunny bags,	158 75
Amount carried forward,	$4,730 43

Amount brought forward,	4,730 43
Labor Reformation Boys on Shoes and Hats, - - . - -	603 22
Keeping Doct. Stedman's horse, -	126 07
Cash left by deceased paupers, - -	11 80
Paid over to City Treasurer,	$5,471 52

Inventory of Stock on hand April 1st, 1845.

150 bbls. Flour,	4 75	712 50
21 " Pork,	16 00	336 00
700 lbs. Rice,	3¼	22 75
384 " Lard,	8½	32 64
400 " Hams,	9	36 00
50 " Sugar,	8	4 00
200 " Fish,	2¾	5 50
250 bushels Potatoes,	40	100 00
150 " Corn,	54	81 00
12 " Barley,	65	7 80
1000 gallons Molasses,	29	290 00
200 yards Prints,	8	16 00
360 " Stripe,	8	28 80
1656 " Sheeting,	7½	124 20
150 " Satinett,	75	112 50
100 " Burlaps,	12	12 00
260 " Denims,	13½	35 10
135 " Ticking,	8½	11 47
Buttons, Hand'kfs, &c.		25 00
24 cords Wood,	5 00	120 00
56 tons hard, and 11 chal. soft Coal,		382 00
28 barrels Soap,	3 00	84 00
735 Bunks and Bedding,	6 00	4,410 00

15 double and 65 single Feather Beds,		285 00	
Other Furniture estimated at		1,000 00	
4 tons Hay,	14 00	56 00	
11 Neat Cattle, 220 5 Horses, 500		720 00	
22 Swine,	12 00	264 00	
Waggons, Carts, and Farming Utensils,		1,200 00	
2000 lbs. Oakum, and 9000 lbs. Junk,		450 00	
Stock and tools of Carpenters, Painters, Smiths, and Shoemakers,		275 00	
Books in Schools and Chapel,		150 00	
Medicine and Surgical Instruments,		200 00	
20 Coffins,	1 25	25 00	
			$11,614 26

Produce of the Farm and Garden, 1844.

20 tons English Hay,	14 00	280 00
3 “ Barley Straw,	11 00	33 00
100 bushels Barley,	65	65 00
35 tons Carrots,	8 00	280 00
450 bushels Potatoes,	33	148 50
350 “ Eng. Turnips,	12½	43 75
200 “ Blood Beets,	50	100 00
900 “ Onions,	40	360 00
5 barrels Quinces,	5 00	25 00
200 “ Apples,	1 25	250 00
1500 Cabbages,	3	45 00

40 tons Green Fodder,	6 00	240 00	
Sales of Fruit and Vegetables not included above,		1300 00	
Vegetables used in the House before harvest time,		250 00	
			$3420 25

Produce of Dairy and Piggery.

4000 gallons Milk,	16 00	640 00	
27 Swine killed, wt. 10,570 lbs.	6 00	634 20	
			$1274 20

STATEMENT

Of Inmates of House of Industry, during the year ending March 31, 1845.

Month.	Entered with Permits.	Committed by Police Court.	Born in the House	Indented.	Died.	Discharged and Eloped.
1844 April,	52	8	1	6	11	151
May,	66	2	4	5	11	92
June,	49	1	0	2	6	62
July,	67	4	1	1	7	65
August,	72	2	3	3	17	56
Sept.	80	2	3	6	6	61
October,	89	1	3	1	16	48
Nov.	83	3	4	3	8	45
Dec.	95	1	8	0	10	33
1845 January,	66	0	4	4	7	38
February,	67	1	3	0	5	59
March,	55	1	7	4	7	105
	841	26	41	35	111	815

GENERAL SUMMARY.

In the House March 31, 1844,	614	
Entered with Permits, - -	841	
Committed by Police Court, -	26	
Born in the House, - - -	41	
		1,522
Discharged and eloped, - -	815	
Apprenticed, - - - -	35	
Died, - - - - -	111	
Remaining March 31, 1845, -	561	
		1,522
Greatest number at one time, Feb. 19, 1845,		628
Least " " " " Oct. 2, 1844,		471
Average, "		549

STATEMENT

Of the condition and employment of the Inmates.

MALES.

Attending Fires, - - - -	3
Writing and Marking Clothes, - -	1
Painting 1, Attending Insane 1, - -	2
Carpenters 3, Tailors 1, Barbers 1, -	5
Sweepers and Soap boilers, - -	6
Attending barn and piggery, - -	4
Cooks and waiters in wash room, - -	4
Preparing and boiling Junk, - -	2
Shoemakers 2, Bakers 2, - -	4
Nurses and Overseers of Wards, - -	15
Overseers of Work Rooms, - -	3
Picking Oakum, - - - -	50
Sawing and splitting wood, - -	4
On Farm and out door work, - -	24
Insane and Idiotic, - - - -	11
Sick and disabled, - - - -	63
	199

Children at School,	125	
" " Nurse,	42	157
		356

FEMALES.

Sewing and Knitting,	20
Washing and Scrubbing,	22
Domestics at Children's Asylum,	5
Nurses,	15
Feeble women taking care of Children,	22
Domestics in the middle of the House,	2
Overseers of Wards,	7
Insane and Idiotic,	14
Sick and Infirm,	57
	164

Children at School,	28	
" " Nurse,	13	41
		205

Remaining in the House, March 31, 1845.

Men,	199
Women,	164
Boys,	157
Girls,	41
	561

STATISTICS

Of Inmates of House of Industry, from April 1, 1829, *to April* 1, 1845.

Date.	Remaining in the House.	Admitted during the following year.	Born.	Discharged and Deserted.	Indentured.	Died.	Average number the whole year.
April 1.							
1829	548	755	21	550	22	93	535
1830	638	655	20	596	50	81	558
1831	586	857	13	698	70	92	534
1832	596	872	23	702	52	171	529
1833	556	919	20	806	60	101	502
1834	527	953	28	740	62	131	541
1835	575	848	27	704	54	150	505
1836	542	790	39	666	43	124	479
1837	538	1032	30	799	18	159	564
1838	624	900	23	779	24	175	570
1839	569	834	21	694	52	120	544
1840	558	981	24	806	32	119	571
1841	606	826	27	693	32	146	551
1842	588	1106	25	817	35	160	631
1843	707	910	41	869	25	160	641
1844	614	867	41	820	30	111	549
1845	561						

STATEMENT

Of Inmates of the Reformation Department of the House of Industry, for the year ending March 31, 1845.

	Months.	Committed by Courts.	Indented.	Discharged.	Returned.
1844	April,	1	5	2	0
	May,	1	3	4	0
	June,	0	0	4	0
	July,	3	0	0	0
	August,	1	1	1	0
	September,	1	2	1	0
	October,	1	1	0	0
	November,	3	0	2	0
	December,	3	0	0	0
1845	January,	3	2	0	0
	February,	1	1	1	0
	March,	2	0	1	1
		20	15	16	1

SUMMARY

In the House March, 31, 1844, - - -		61
Committed since by Municipal Court, -		6
" " Police Court, - -		14
Returned to the House by Master, - -		1
Whole number during the year, - - -		82
Viz: 78 Boys and 4 Girls.		
Indented, - - - - -	15	
Discharged by Courts, - - -	16	
Eloped, - - - - -	2	
Died, - - - - - -	1	
Committed to House of Correction, -	1	35
Remaining in the House, March 31, 1845,		47

OFFENCES

For which the Inmates were committed, viz:

Larceny, - - - - - -	28
Stubbornness, - - - - - -	25
Living idle and dissolute life, - - -	13
Stealing, - - - - - - -	8
Pilfering, - - - - - - -	3
Vagrancy, - - - - - -	4
Cheating by false pretences, - - -	1
	82

Apprenticed to Farmers, - - - -	3
" " Shoemakers, - - -	7
" " Seamanship, - - -	1
" " House Carpenter, - -	1
" " Baker, - - - -	1
" " Coppersmith, - - -	1
" " Housewifery, (girl) - -	1
	15

City Document—No. 20.

CITY OF BOSTON.

CITY DEBT.

In Common Council, May 8, 1845.

Laid on the table, and with the accompanying document, ordered to be printed.

Attest, W. P. Gregg, *Clerk C. C.*

CITY OF BOSTON.

In City Council, May 8, 1845.

The Committee on the Reduction of the City Debt respectfully ask leave to remind the City Council, that, by an Ordinance passed March 10th, 1834, the Mayor, the President of the Common Council, and the Chairman of the Joint Committee of Finance, on the part of the Common Council, were constituted a Committee, to be called "The Committee on the Reduction of the City Debt."

By the same Ordinance, it was further provided, that all balances of money remaining in the Treasury at the end of any financial year; all receipts, in money, on account of the sale of Real Estate of any description, then belonging, or which might thereafter belong, to the City;—and all receipts, in money, on account of the principal sum of any bond or note then owned, or which might thereafter be owned, by the City, should be carried to the credit of this Committee, on the books of the accounting officers of the City; and be appropriated to the payment or the purchase of the Capital of the City Debt.

By an Ordinance passed December 28th, 1840, it was further provided that there should be appropriated, in every future year, out of the Tax of the year, for the payment or purchase of the principal of the City Debt, a sum not less than fifty thousand dollars in each year.

Under these wise provisions for the diminution of the principal of the Public Debt of our City, that Debt has been very considerably diminished, within the financial year which closed on the thirtieth day of April last:—and the present Committee on the Reduction of the City Debt respectfully ask leave to submit to the Council a statement of the proceedings which have taken place in the premises.

The following funds have been carried to the credit of this Committee, within the last financial year, viz:

1st. The balance of money which remained in the City Treasury, on the 30th of April, 1844, the close of the preceding financial year,	181,482 03
2d. Amount received, within the financial year, on account of sales of Real Estate belonging to the City, -	58,307 00
3d. Amount received, within the financial year, on account of the principal of various Notes and Bonds belonging to the City, - - -	54,336 93
4th. Amount appropriated, out of the Tax of the year, - - -	50,000 00
Making the total amount carried to the credit of the Committee, during the financial year 1844–45, - -	344,125 96

From the funds thus credited to this Committee, the following disbursements have been made, viz:

Two certificates of Stock, due in the preceding financial year, the amount of which was not called for at maturity, have been paid within the last financial year, amounting to - - -	1,900 00
Amount carried forward,	1,900 00

Amount brought forward,		1,900 00
The whole amount of the City Debt which fell due within the financial year 1844–45, has been fully paid and cancelled—amounting to - - -		226,100 00
The Committee, finding an abundance of funds at their credit—more than was required to meet that portion of the debt falling due within the year—have made the following purchases of City Stock, not then due, viz:		
$12,000—due in 1845–46, at 5 per cent. interest, purchased at par,	12,000 00	
$16,000—due in 1846–7, at 5 per cent. interest, purchased at 1⅝ per cent. premium,	16,260 00	
$14,000—due in 1854-55, at 5 per cent. interest, purchased at 3⅝ per cent. premium,	14,507 50	
$3,000—due in 1854–55, at 5 per cent. interest, purchased at 4¾ per cent. premium,	3,142 50	
$1,000—due in 1854–55, at 5 per cent. interest, purchased at 5 per cent. premium,	1,050 00	
Making the amount paid for Stock not due, and for the premium thereon,		46,960 00

And making the whole amount standing at the charge of this Committee, for their disbursements during the financial year 1844–5,	274,960 00
Deduct this amount, thus charged to them, from the amount with which they are credited, as above stated, and there would remain a balance at the credit of the Committee—which, however, becomes merged in the general balance in the Treasury, at the close of the financial year—amounting to	$69,165 96

Within the financial year which closed on the 30th ult., the following portions of the City Debt have been paid, taken up, and cancelled, viz:—

Stock issued under Order of October 2d, 1826, at 4½ per cent. interest,	35,000 00
Stock issued under Order, for the erection of Faneuil Hall Market House, at 5 per cent. interest,	80,000 00
Stock issued under Order of May 19th, 1834, at 5 per cent. interest,	7,000 00
Stock issued under Order of January 26th, 1835, at 5 per cent. interest,	16,000 00
Stock issued under Order of February 23d, 1835, at 5 per cent. interest,	2,000 00
Stock issued under Order of July 25th, 1836, at 5 per cent. interest,	16,000 00
Amount carried forward,	156,000 00

Amount brought forward,		156,000 00
Stock issued under Order of October 16th, 1837, at 5 per cent. interest,		1,900 00
Stock issued under Order of April 29th, 1839, at 5 per cent. interest,	40,500 00	
At 5½ per cent. interest,	27,000 00	67,500 00
Stock issued under Order of June 6th, 1839, at 5 per cent. interest,	2,200 00	
At 5½ per cent. interest,	8,300 00	10,500 00
Stock issued under Order of July 1st, 1839, at 5½ per cent. interest, -		16,500 00
Stock issued under Order of July 15th, 1839, at 5½ per cent. interest, -		4,000 00
Stock issued under Order of December 21st, 1839, at 5½ per cent. interest, - - - - - -		5,600 00
Stock issued under Order of April 28th, 1840, at 5 per cent. interest, -		12,000 00
Making the total amount of City Debt paid, within the financial year 1844–45, - - - - -		$274,000 00

Of the Stock thus paid off, and cancelled, $35,000 bore interest at 4½ per cent. per annum—the annual interest on which amounted to -	1,575 00
$177,600 bore interest at 5 per ct. —annual interest, - - - -	8,880 00
$61,400 bore interest at 5½ per ct. —annual interest, - - - -	3,337 00

So that, by the payment of this portion of the City Debt, the amount of annual interest saved to the City is	$13,832 00
The total amount of the City Debt, on the first day of May, 1844, as stated in the Thirty Second Annual Report of the Receipts and Expenditures of the City, was - - - -	1,423,800 00
To this, there should have been added the amount of two Certificates of City Stock, which fell due in the preceding financial year, but the payment of which was not demanded within that year—and which were, consequently, outstanding on the first of May, 1844, - - - -	1,900 00
This would have made the actual amount of the City Debt, on the first day of May, 1844, - - - -	1,425,700 00
From this is now to be deducted the amount of the City Debt paid, as above stated, within the financial year which closed on the 30th ultimo, -	274,000 00
Making the amount of the Debt, deducting the payments on account of it, within the last financial year, -	1,151,700 00
But to this must be added, the amount borrowed under an Order of the City Council, passed 1st July, 1844, for rebuilding the Franklin	
Amount carried forward,	1,151,700 00

Amount brought forward,	1,151,700 00
School House which was destroyed by fire, say, - - - - -	11,566 62
And this will make the actual amount of the Public Debt of the City of Boston, as it stood on the first day of May, 1845, the commencement of the financial year upon which we have just now entered, - -	$1,163,266 62

As the amount of funds appropriated to the Reduction of the City Debt, and which were available for the purposes of the last financial year, were more than sufficient to meet all that portion of the Debt which became due and payable within the year, the Committee have availed themselves of the authority, granted them by the City Ordinances, to purchase such certificates of City Stock, not at maturity, as were offered for sale during the year—deeming that the City might well become the purchaser of its own debt, at whatever rate it was worth in the market, while it had money in Bank, applicable to that purpose, drawing a much lower rate of interest than that which was borne by its Stock thus offered for sale.

The Committee take this occasion sincerely to congratulate the City Council upon the gratifying fact that—by steadily pursuing this salutary system for the gradual reduction of the City Debt, and by steadfastly adhering to the determination not to create any new debt, except for objects of indispensible necessity—the City Debt has been reduced, within the last five years, over *half a million of dollars.*

On the first day of May, 1840—the commencement of the financial year 1840–41—the Debt of the City was at its highest point. It then stood at $1,698,232 56

During the financial years subsequent to the abovementioned date, the Debt was reduced as follows—

In 1840–41	34,432 56
1841–42	69,100 00
1842–43	76,000 00
1843–44	93,000 00
1844–45	262,433 38

Making the entire reduction of the Debt, within the last five years, - 534,965 94

And leaving the amount of the City Debt, on the first of the present month, as before stated, at - - $1,163,266 62

The Committee will not close this Report, without earnestly recommending to the present City Council, and to the Councils that are to succeed it, a firm adherence to this system for the reduction of the City Debt. If no new expenditure, of great magnitude, is to be incurred, we may well hope to see the salutary influence of this system, exerted for a few years, relieving our City entirely from the burthen of a funded Debt:—and if, on the other hand, the wants of a great and growing population should be found to demand a large outlay for one of the prime necessaries of life, we shall be so much the more able to bear that expenditure, if we find our old debt gradually melting away, and leaving all the surplus resources of the City to meet the demands of this new exigency.

The Committee report an accompanying document, showing the state of the City Debt, as it stood on the first day of May current—the various orders authorizing the respective Loans—and the rates of interest borne by each item of the Debt.

All which is respectfully submitted.

THOMAS A. DAVIS, *Mayor,*
P. W. CHANDLER, *President Common Council,*
WILLIAM HAYDEN, *Chairman Committee of Finance, on the part of the Common Council,*

Committee on the Reduction of the City Debt.

THE PUBLIC DEBT OF THE CITY OF BOSTON.

The character of the Public Debt of the City, as it stood on the first day of May, 1845, was as follows, viz:

Amount of 5 per cent. Stock issued under an Order of 25th Dec., 1825, for the purchase of an Estate for the improvement of Court street. *Payable at the decease of a person having a life interest in the Estate,* -	20,000 00
Amount of 4½ per cent. Stock issued under an Order of 2d October,	
Amount carried forward,	20,000 00

Amount brought forward,	20,000 00
1826, to raise funds for the redemption of certain portions of the City Debt, which bore a higher rate of interest. *Payable in the financial year* 1849–50, - - - -	30,000 00
Amount of 6 per cent. Stock contracted for the Erection of Faneuil Hall Market, and for the improvements connected therewith. *Payable in the financial year*, 1854–55, - -	100,000 00
Balance of 5 per cent. Stock issued under an Order of 19th May, 1834, authorizing a loan for the purposes of that financial year. *Payable in the financial year* 1854–55, - -	93,000 00
Amount of 5 per cent. Stock issued under an Order of 6th October, 1834, authorizing a Loan for the erection of the House of Reformation at South Boston. *Payable in the financial year* 1854–55, - -	20,000 00
Balance of 5 per cent. Stock issued under an Order of 26th January, 1835, authorizing a Loan to redeem other portions of the City Debt. *Payable in the financial year* 1854–55, - - - -	484,000 00
Balance of 5 per cent. Stock issued under an Order of 3d January, 1835, authorizing a Loan to meet certain deficiencies of appropria-	
Amount carried forward,	747,000 00

Amount brought forward,	747,000 00
tions. *Payable in the financial year* 1854–55,	11,100 00
Amount of 5 per cent. Stock issued under an Order of 23d February, 1835, authorizing a Loan for the Erection of the new Court House. *Payable in the financial year* 1854–55,	58,000 00
Amount of 5 per cent. Stock issued under an Order of 27th April, 1835, authorizing a Loan on account of the Expense of laying out Blackstone street, and extending Commercial and Broad streets. *Payable in the financial year* 1854–55,	68,000 00
Amount of 5 per cent. Stock issued under an Order of 27th April, 1835, authorizing a Loan to defray in part the Expenses of the financial year 1835–36. *Payable in the financial year* 1854–55,	25,000 00
Amount of 5 per cent. Stock issued under an Order of 5th Oct., 1836, authorizing a Loan to meet certain additional appropriations. *Payable in the financial year* 1846–47,	7,100 00
Amount of 5 per cent. Stock issued under an Order of 12th November 1835, authorizing a Loan to complete the House of Reformation at South Boston. *Payable in the financial year* 1846–47,	10,000 00
Amount carried forward,	926,200 00

Amount brought forward,	926,200 00
Amount of 5 per cent. Stock issued under an Order of 25th April, 1836, authorizing a Loan to defray in part the Expenses of the financial year 1836–37. *Payable in the financial year* 1846–47, - - -	10,000 00
Amount of 5 per cent. Stock issued under an Order of 25th July, 1836, authorizing a Loan to meet additional appropriations for Widening and Extending Streets. *Payable in the financial year* 1846–47, - -	13,000 00
Balance of Stock issued under an Order of 6th June, 1839, authorizing a Loan for the purchase of certain Estates on School street, in front of City Hall, at 5 per ct. interest. *Payable in the financial year*, 1859–60, - - - - - -	48,500 00
Amount of 5 per cent. Stock issued under an Order of 28th April, 1840, authorizing a Loan to defray in part the Expenses of the financial year 1840–41. *Payable in the financial years*, 1845–46, 61,000 00 1860–61, 5,000 00	66,000 00
Amount of 5 per cent. Stock issued under an Order of 18th May, 1840, authorizing a Loan for the liquidation of certain portions of the City Debt which became due within that financial year. *Payable in the financial year* 1847–48, - - -	88,000 00
Amount carried forward,	1,151,700 00

Amount brought forward,	1,151,700 00
Amount of 5 per cent. Stock issued under an Order of 1st July, 1844, authorizing a Loan for the rebuilding of the Franklin School House. *Payable May 1st,* 1845, - -	11,566 62
Total amount of the City Debt on the first day of May, 1845, - -	$1,163,266 62

THE EXISTING CITY DEBT will be DUE and payable as follows, viz:

At the decease of a certain Individual,		20,000 00
In the financial year	1845–46 - -	72,566 62
	1846–47 - -	40,100 00
	1847–48 - -	88,000 00
	1849–50 - -	30,000 00
	1854–55 - -	859,100 00
	1859–60 - -	48,500 00
	1860–61 · -	5,000 00
		$1,163,266 62

The Average ANNUAL INTEREST on the City Debt, as it now stands, amounts to $59,013 33—being less than 5 1-0 per cent., viz:

On 30,000 00	at 4½ per cent. -	1,350 00
1,033,226 62	at 5 " -	51,663 33
100,000 00	at 6 " -	6,000 00
$1,163,266 62		$59,013 33

City Document—No. 21.

CITY OF BOSTON.

STREETS.

In the Board of Aldermen, June 9, 1845.

Laid on the table and ordered to be printed.

Attest, S. F. McCleary, *City Clerk.*

CITY OF BOSTON.

AN ORDINANCE

For the Regulation of Horses and Carriages in the Streets of the City, and in relation to Sidewalks.

Be it ordained by the Mayor, Aldermen and Common Council of the City of Boston, in City Council assembled, as follows:

Sect. 1. No person having the care or ordering of any carriage of burthen or pleasure, or of any horse or cattle, shall permit the same to remain in any public street, lane or alley, so as to prevent the access of any other carriage, horse, or cattle to the curb stone in front of any building, public place or square situate on such street, lane or alley, for a longer space of time than fifteen minutes after the same shall have been first placed in front of such building, public place or square. *Provided always*, that nothing herein contained shall be construed to extend to the several streets included within the limits of Faneuil Hall Market.

Sect. 2. No person shall tie or fasten any horse or cattle to any lamp-post or awning-post placed in any public street, lane or alley, or public place or square.

Sect. 3. Every person who shall offend against any of the provisions of this ordinance shall forfeit and pay a sum not less than one dollar, nor more than twenty dollars for each offence.

Sect. 4. All ordinances and parts of ordinances inconsistent with the provisions of this ordinance are hereby repealed.

AUDITOR'S

THIRTY-THIRD

ANNUAL REPORT

OF THE

RECEIPTS AND EXPENDITURES

OF THE

CITY OF BOSTON,

AND

County of Suffolk,

FOR THE FINANCIAL YEAR 1844-45.

1844 MAY 1, TO 1 MAY, 1845.

BOSTON:
1845.
JOHN H. EASTBURN, CITY PRINTER.

CITY OF BOSTON.

In Common Council, June 5, 1845.

Ordered, That the Auditor of Accounts be, and he is hereby authorized to cause to be printed and distributed for the information of the inhabitants of the City, ten thousand copies of the Auditor's Annual Report of Receipts and Expenditures for the financial year 1844–45, together with copies of the Treasurer's accounts for the same year.

Sent up for concurrence.

P. W. CHANDLER, *President.*

In the Board of Aldermen June 9, 1845.

Read and concurred.

BENSON LEAVITT, *Chairman pro tem.*

To the City Council of the City of Boston.

Auditor's Office, June 5, 1845.

In conformity with the requirements of an Ordinance of the City Council, dated 27th July, 1835, I have the honor to submit "a statement of all the Receipts and Expenditures of the past financial year, (1*st May*, 1844 *to* 30*th April*, 1845, *both included*,)—giving in detail, the amount of Appropriation and Expenditure for each specific object, the receipts from each source of Income, and the operation of the Committee on the Reduction of the City Debt, arranged, as far as practicable, to conform to the Accounts of the City and County Treasurer, so that their coincidence may be apparent; and also a schedule of the Property belonging to the City—and an Exhibit showing the Debts due by the City, the rates of Interest thereon, and the years in which the same shall become due."

From these Statements, which are made out and arranged in the usual form,—it will be seen that the whole amount of money paid out of the General

Treasury, during the year, was	$1,273,357 65
And the amount received was	1,222,748 18
Leaving a Balance against the Treasury on this year's work of	$50,609 47

There was in the Treasury at the commencement of the year, a Balance of Cash, belonging to the Committee on the Reduction of the City Debt, of	$181,432 03
From which deduct the above amount, which was paid on account of the Debt, and is therefore chargeable to that Committee, viz:	50,609 47
Leaves,	$130,872 56

which was the Balance on hand at the close of the year, as per Treasurer's account.

This Report will show that a very satisfactory diminution of the City Debt has been made during the year, being a reduction of $46,000, over and above the amount of $226,100, which became due. This reduction has been effected by the operation of the "COMMITTEE ON THE REDUCTION OF THE CITY DEBT"—an account of whose doings will be found annexed.

The loan of $30,000, provided for in the appropriation Bill of last year, to meet the Expense of Widening Fleet Street, has not been negociated.—

The Mayor and Aldermen not having ordered that improvement made until the last week of the financial year.

Of the loan of $16,000, authorized in July to pay for the re-building of the Franklin School House, which was destroyed by fire in June, $11,566 62 only was negociated—that sum being all that became payable, on the Contract for re-building, before the close of the year. Although this amount figures, at the close of the year, as an addition to the Permanent Debt of the City, yet it can hardly be considered an increase, as the debt was a nominal affair, being made payable on the 1st day of May, 1845, *(the first day of the present financial year)* and was accordingly paid off on that day.

The heaviest item in our Annual Expenditures will be found to be for maintaining our PUBLIC SCHOOLS, an expense, however which our citizens have always been found most willingly to support.

During the year a new Grammar School House has been erected in Lancaster Street, with the usual accommodations for Primary Schools;—two new Primary School Houses, one in Blossom Street and one in Charter Street, have also been built;—the new Latin and High School House in Bedford Street has been completed;—the Franklin School House, which was destroyed by fire in June last, has been rebuilt in part; the old High School House in Pinckney Street and the Bowdoin School House in Derne Street, have had extensive alterations and additions, so as to fit them for more extended accommodations for Grammar and Primary scholars—yet such is the increasing demand for School accommodation that it has been found necessary to provide for two more Grammar School Houses, and two or three more Primary School Houses in the Appropriation Bill for the coming year.

The amount expended on School Houses alone during the past year was near $75,000. The amount of Salaries paid to the Teachers alone exceeded $110,000; and the whole amount of payments on School account for the year was $205,277 68, as will be seen by reference to the Synopsis of the Report hereto annexed—and this amount is nearly one third of all the City Expenses, exclusive of the City Debt and the Interest on the same.

After the Schools, our next heavy Expense is for Widening and Paving the Streets. The cost of widening Streets for a few years past has been quite heavy, and must be so for some years to come. After those improvements are made, which have been for a long time in contemplation, it may be reasonably anticipated that the Expenses for this object will be very much reduced; and that the increased amount of Taxable property, incident to these improvements and to the natural growth of the City, will render any increase of Taxation on this account unnecessary.

The large surplus of Cash in the Treasury at the close of the two or three past years, in addition to the amount received on account of the sales of the Public Lands, which are now being made almost daily, naturally leads to the inquiry why there is not a corresponding diminution in the ratio of Taxation. The reply is simple:—It is now the settled Policy of the City to make every year pay its own expenses, besides contributing *Fifty Thousand Dollars* towards the reduction of the City Debt:—In other words, the annual Taxes and the regular income of the City from Rents, &c. exclusive of the Sales of the Public Lands, are now required to be equal to the yearly appropriations. The Proceeds of the Public Lands—the amount paid in on Bonds and Mortgages, and the Balance of Cash on hand at the close of every financial year being, by ordinance, specifically pledged to the redemption of the City Debt, they cannot of course ease the burthen of Taxation any further than their faithful application to the reduction of the debt contributes to reduce the amount annually required for the payment of Interest money—the citizens have however the satisfaction of seeing their public Debt fast melting away under the operation of these wise provisions, which have thus established so effective a sinking fund.

All of which is respectfully submitted

E. COPELAND, Jun'r.

Auditor of Accounts.

SYNOPSIS
OF THE
AUDITOR'S ANNUAL REPORT,
FOR THE FINANCIAL YEAR,
1844-45.

May 1, 1844, *to April* 30, 1845, *inclusive.*

The EXPENDITURES of the Year, deducting Credits, are chargeable as follows, viz:

CITY DEBT, reduction of -		263,393 38
SCHOOLS and SCHOOL HOUSES,		205,277 68
STREETS, viz:		
Widening, -	57,817 27	
Paving and repairs,	39,111 84	
Lighting, -	25,365 42	
		122,294 53
INTEREST, - - - -		60,682 65
WATCH and Watch Houses, -		48,570 39
FIRE DEPARTMENT, - -		46,197 31
OVERSEERS OF THE POOR, and Institutions at South Boston,		39,058 36
COUNTY OF SUFFOLK, - -		37,609 74
HEALTH DEPARTMENT, -		28,014 29
Amount carried forward,		$851,098 33

Amount brought forward,	$351,098	33
SALARIES and Clerk hire, not included in any other item, - -	18,670	61
POLICE, - - - - -	12,375	01
PUBLIC LANDS, - - -	6,720	34
COMMON SEWERS, - - -	4,858	43
PUBLIC BUILDINGS, - -	4,322	07
PRINTING and STATIONERY, -	3,788	62
FOURTH OF JULY Celebration, - - - - - -	3,679	39
BRIDGES, - - - - -	3,187	13
PURE WATER PROJECT, -	3,106	67
MARKET HOUSE, - - -	2,154	59
FUEL and LIGHTS for the Public Offices, and for Faneuil Hall, -	1,357	68
COMMON and MALLS, &c. -	1,019	21
EXTRA WARD MEETINGS, -	1,040	23
ADVERTISING and NEWSPAPERS, - - - - -	900	00
OLD CLAIMS, - - - -	793	76
BELLS and CLOCKS, - -	717	56
REWARDS for detecting illegal voters, and persons raising false alarms of fire, - - - - -	727	25
ARMORIES and Powder for Militia,	702	58
ANNUITIES, - - - -	625	00
INCIDENTAL EXPENSES, viz; Annual visit of the Government to		
Amount carried forward,	$921,844	46

Amount brought forward,	$921,844 46
the Quarantine Establishment, Carriage Hire and other Expenses of Committees; Care, Cleaning, making Fires, &c. in the Public Offices; Furniture; Recording Deeds; Books; Postages, &c. &c. - -	1,603 48
STATE TAX, - - - - -	25,488 75
	$948,936 69

The NET REVENUE of the year has been derived from the following sources, viz:

TAXES, - - - - -	720,601 05
LANDS, Bonds and Mortgages, -	112,643 93
RENTS, - - - - -	52,595 03
ALIEN PASSENGERS, - -	5,764 02
FEES and LICENCES, - -	2,734 72
LAWRENCE FUND, - -	2,000 00
MILITIA BOUNTY, &c. - -	132 19
BURIAL GROUNDS, - -	104 80
	$896,575 74

The Net Income of the year, as above stated, was - - - -	896,575 74
The Balance remaining from last year in the Treasury, was - -	181,482 03
Amount carried forward,	$1,078,057 77

Amount brought forward,	$1,078,057	77
The Net Payments as above stated, amount to - - - -	948,936	69
	129,121	08
Amount due but not yet called for	1,751	48
Balance on hand at the close of the year, - - -	$130,872	56

TAXES.

The amount of Taxes assessed in the year 1844, was as follows, viz:

Valuation of Real Estate,	72,048,000	
Personal	46,402,300	
Total,	$118,450,300	
At $6 per $1,000 is		710,701 80
Polls 22,339 at 1 50 each is		33,508 50
Total,		$744,210 30

The amount assessed in 1843 was as follows, viz:

Valuation of Real Estate,	67,673,400	
Personal,	42,372,600	
Total,	$110,046,000	
At $6,20 per $1,000 is		682,285 20
Polls 20,063 at 1 50 each is		30,094 50
Total,		$712,379 70

The amount assessed in 1842 was as follows, viz:

Valuation of Real Estate,	65,499,900		
Personal	41,223,800		
Total,	$106,723,700		
$106,723,700, at $5,70 per $1,000, is		608,325	09
Polls 19,636 at 1 50, is		29,454	00
		$637,779	09

The assessment for the year 1841 was as follows, viz:—

Valuation of Real Estate,	61,963,000		
Personal,	36,043,600		
Total,	$98,006,600		
At $6 per $1,000 is		588,039	60
Polls 18,915 at 1 50 is		28,372	50
Total,		$616,412	10

APPROPRIATIONS.

STATEMENT OF THE APPROPRIATIONS made by the City Council, to meet the EXPENDITURES of the CITY OF BOSTON and COUNTY OF SUFFOLK, for the financial year 1844-45,—*commencing with the first day of May*, 1844, *and ending with the last day of April*, 1845.

ANNUITIES. *For the payment of three annuities, vix : one for the purchase of George's and Lovell's Islands, and two others to persons having Life Estates in Lands taken to widen Streets,*	
Original Appropriation - -	625 00
ADVERTISING, &c. *For six City Newspapers, and advertising in the same, as per contracts,*	
Original Appropriation,	900 00
BURIAL GROUNDS. *For care and improvement of the Burial Grounds and Public Tombs, Funeral Cars, &c.*	
Amount carried forward,	$1,525 00

Amount brought forward,		$1,525 00
Original Appropriation,	1,000	
Subsequently withdrawn and added to other appropriations,	200	
		800 00
BRIDGES. *For Repairs of the Bridges belonging to the City,*		
Original Appropriation,	5,000	
Subsequently withdrawn for other purposes,	2,500	
		2,500 00
BELLS AND CLOCKS. *For Ringing six Bells in different parts of the City, to denote the hours of the day; and for Care and Repairs of the Public Clocks,*		
Original Appropriation,		1,000 00
COUNTY OF SUFFOLK. *For all the County Expenses, except the Salaries of the Justices and Clerks of the Police Court; including the Care and Repairs of the County Buildings, all of which belong exclusively to the City,*		
Original Appropriation,	50,000 00	
Subsequently added, by withdrawing the same from other appropriations,	5,000 00	
		55,000 00
COMMON, &c. *For Care and Improvement of the Common and Malls; Fort Hill; Copp's Hill, and the Land in front of the City Hall,*		
Original Appropriation,	2,500 00	
Subsequently withdrawn,	1,400 00	
		1,100 00
COMMON SEWERS. (*See Sewers and Drains.*)		
CITY DEBT. *For Reduction of the Prin-*		
Amount carried forward,		$61,925 00

Amount brought forward		$61,925 00
cipal of the Public Debt of the City, in compliance with the ordinance of the 28th Dec. 1840,		50,000 00
ENGINE AND HOOK AND LADDER HOUSES. *For Rent and Repairs of the Engine and Hook and Ladder Houses,*		
Original Appropriation,	1,000 00	
Subsequently withdrawn,	100 00	
		900 00
EXTERNAL HEALTH DEPARTMENT. *For Expenses of the Quarantine Establishment at Rainsford Island, including Repairs of the Buildings and Repairs and supply of the Quarantine Boat; but exclusive of the Salaries of the Boatmen and Island Keeper,*		
Original Appropriation,		700 00
FIRE DEPARTMENT. *For the usual Expenses of this Department, exclusive of Reservoirs and Engine and Hook and Ladder Houses, and Salaries of the Chief Engineer and Clerk of the Department,*		
Original Appropriation,	39,000 00	
Subsequently added,	3,100 00	
		42,100 00
FLEET STREET. *For the widening of Fleet Street* so *as to make it* 35 *feet, if so ordered by the Mayor and Aldermen; and to be paid for by a special loan,*		30,000 00
GAS FIXTURES. *For new fixtures to extend the use of Gas in lighting the City,*		
Original Appropriation,	1,000 00	
Subsequently withdrawn,	350 00	
		650 00
HOUSE OF CORRECTION. *For the gross Expenses of this Establishment—all the*		
Amount carried forward,		$186,275 00

Amount brought forward,		$186,275 00
income from the same being paid into the City Treasury,		
Original Appropriation,	20,000 00	
Subsequently withdrawn,	1,400 00	
		18,600 00
HOUSES OF INDUSTRY AND REFORMATION. *For the gross Expenses of these Establishments, all the income from the same being paid into the City Treasury,*		
Original Appropriation,	35,000 00	
Subsequently withdrawn,	5,800 00	
		29,200 00
INSTRUCTERS. *For the Salaries of the Instructers and Teachers in all the Schools, except the Primary Schools,*		
Original Appropriation,	86,000 00	
Subsequently added,	3,050 00	
		89,050 00
INTERNAL HEALTH DEPARTMENT. *For the Expenses of this Department, which includes the cost of Sweeping and Cleaning the Streets, removing the House Offal, and the general arrangements for the preservation of the Health of the City,*		
Original Appropriation,	30,000 00	
Subsequently added,	3,500 00	
		33,500 00
INCIDENTAL EXPENSES AND MISCELLANEOUS CLAIMS—*Being for all those Expenditures which are not properly chargeable to any other regular appropriation,*		
Original Appropriation,	18,000 00	
Subsequently withdrawn,	1,000 00	
		17,000 00
INTEREST. *For the payment of the Inter-*		
Amount carried forward,		$373,625 00

Amount brought forward,		$373,625 00
est on the Funded Debt of the City, and on such temporary Loans as may be required,		
Original Appropriation,	75,000 00	
Subsequently transferred,	4,500 00	
		70,500 00
LAMPS. *For the Expenses of Lighting the City, including the Salary of the Superintendent of the Lamp Lighting Department,*		
Original Appropriation,	24,000 00	
Subsequently added,	900 00	
		24,900 00
LUNATIC HOSPITAL. *For the gross Expenses of this Establishment, all its income being paid into the City Treasury,*		
Original Appropriation,	13,000 00	
Subsequently withdrawn,	800 00	
		12,200 00
MILITIA BOUNTY. *For payments to be made by the City, on account of the Commonwealth, of the Bounty allowed by Law to the Volunteer Militia,*		
Original Appropriation,		5,000 00
This is a nominal item, as the amount paid out is always refunded by the State Treasury.		
MARKET HOUSE. *For the Expenses of this Establishment, exclusive of the Salary of the Clerk of the Market,*		
Original Appropriation,	1,500 00	
Subsequently added,	1,100 00	
		2,600 00
NEW LATIN AND HIGH SCHOOL HOUSE. *For the completion of this Building,*		
Original Appropriation—*All the Balance which may be due from the Purchasers of*		
Amount carried forward		$488,825 00

Amount brought forward,		$488,825 00
the Old Latin School House in School Street, supposed to be	4,000 00	
This Balance proved to be 5,700 *instead of* 4,000, *making a difference of*	1,700 00	
To which was subsequently added, from other appropriations,	2,500 00	
		8,200 00
NEW GRAMMAR SCHOOL HOUSE. *For the purchase of Land, and erection of a New Grammar School,*		
Original Appropriation,	25,000 00	
Subsequently added,	1,000 00	
		26,000 00
NEW FRANKLIN SCHOOL HOUSE. *For the re-building of the Franklin School House in Washington Street, which was destroyed by fire, 25th June,* 1844,		16,000 00
To meet this appropriation, a Special Loan was authorised, by an order of the 1*st July,* 1844, *payable within two years, at not exceeding* 5 *per cent. interest.*		
NEW SOLITARY ROOMS AT THE LUNATIC HOSPITAL. *For the erection of a new Building, near the Lunatic Hospital at South Boston, for the confinement of those Patients whose situations render them, occasionally, annoying to the other Inmates of the main House,*		
Original Appropriation,	4,500 00	
Subsequently added,	1,200 00	
		5,700 00
OVERSEERS OF THE POOR. *For the usual Annual Disbursements by this Board—all their income* being paid into*		
Amount carried forward,		$514,725 00

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* For the support of those Poor who have a legal settlement in other places.

Amount brought forward,		$544,725 00
the City Treasury, Original appropriation,		15,000 00
OLD HIGH SCHOOL HOUSE. *For Alterations and Repairs of the School House, in Pinckney Street, formerly occupied by the High School, so as to fit it for the usual accommodation of Writing, Grammar and Primary Schools,*		
Original Appropriation,	2,500 00	
Subsequently added,	500 00	
		3,000 00
OLD CLAIMS. *For the Payment of Claims against the City which have been audited and allowed in former years, but not yet called for,*		
Original Appropriation,	3,000 00	
Subsequeutly withdrawn,	2,000 00	
		1,000 00
PRIMARY SCHOOLS. *For the usual Annual Expenses of these Schools, including salaries of the Teachers, Rent of Rooms, Fuel, and other Contingent Expenses,*		
Original Appropriation,	40,000 00	
Subsequently added,	300 00	
		40,300 00
PRIMARY SCHOOL HOUSES. *For the purchase of Land, and the erection of two New Primary School Houses,*		
Original Appropriation,	11,000 00	
Subsequently added,	1,800 00	
		12,800 00
PUBLIC LANDS. *For Care and Improvement of the Public Lands, making Streets, and Common Sewers through the same, including the Lands West of Charles Street,*		
Original Appropriation,	5,000 00	
Subsequently added,	1,200 00	
		6,200 00
Amount carried forward,		$623,025 00

Amount brought forward,		$623,025 00
PUBLIC BUILDINGS. *For Repairs, &c. of the Public Buildings, exclusive of the School Houses, and the County Buildings,*		
Original Appropriation,	2,500 00	
Subsequently added,	1,000 00	
		3,500 00
PAVING and REPAIRS of STREETS. *For the Expenses of the Paving Department, exclusive of the Salary of the Superintendent of Streets,*		
Original Appropriation,	45,000 00	
Subsequently withdrawn,	6,100 00	
		38,900 00
POLICE. *For the Expenses of the Police Department,*		
Original Appropriation,	8,000 00	
Subsequently added,	2,000 00	
		10,000 00
PRINTING and STATIONERY. *For the Printing, Binding and Stationery, required by the City Council and in the Public Offices,*		
Original Appropriation,	3,000 00	
Subsequently added,	1,000 00	
		4,000 00
RESERVOIRS. *For the Construction of New Reservoirs for the use of the Fire Department,*		
Original Appropriation,	2,000 00	
Subsequently added,	100 00	
		2,100 00
RESERVED FUND. *For this amount to be appropriated as the City Council might thereafter direct,*		
Original Appropriation,	13,275 00	
All of which was withdrawn and added to other existing appropriations, except		*665 00
SCHOOLS. *For Alteration and Repairs of*		
Amount carried forward,		$682,190 00

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* This amount was paid for building a new Watch House on the City Land in Canton Street.

Amount brought forward,		$682,190 00
School Houses ; Fuel, and other Contingent Expenses, except Salaries of Instructers in all the Schools, except the Primary Schools,		
Original Appropriation,	19,000 00	
Subsequently added,	2,400 00	
		21,400 00
SALARIES. *For the Salaries of the City Officers, and the Justices and Clerks of the Police Court,*		
Original Appropriation,	37,000 00	
Subsequently added,	500 00	
		37,500 00
SEWERS and DRAINS. *For Building and Repairing Common Sewers, and Care and Repairs of the* WELLS and PUMPS, *belonging to the City,*		
Original Appropriation,	9,000 00	
Subsequently withdrawn,	200 00	
		8,800 00
STATE TAX. *For the City's proportion of the Seventy Five Thousand Dollars, State Tax,*		
Original Appropriation,		25,500 00
UNLIQUIDATED CLAIMS. *For the Payment of Claims against the City for Lands taken for widening or extending Streets in former years,*		
Original Appropriation,	20,000 00	
Subsequently withdrawn,	13,232 82	
		6,767 18
WIDENING STREETS. *For the cost of Lands and other damages consequent on widening and extending Streets, the same to be done and settled for during the present financial year,*		
Original Appropriation,	35,000 00	
Subsequently added,	19,542 82	
		54,542 82
WATCH. *For the usual Expenses of the City Patrol Watch, including the Captain's Salary,*		
Amount carried forward,		$836,700 00

Amount brought forward,		836,700 00
Original Appropriation,	48,000 00	
Subsequently added,	500 00	
		48,500 00
WATCH HOUSES. *For Building the New Watch House in Canton Street. See Reserved Fund.*		
WELLS and PUMPS. *See Sewers and Drains.*		
Total amount of Specific and Incidental Appropriations,		$885,200 00

The Amount of Specific Appropriations, made by the order of 15th April 1844, to meet the EXPENDITURES of the year 1844-45, was		867,500 00
To which is to be added		
The Special Appropriation of 1st July 1844, for re-building the Franklin School House,	16,000 00	
And the extra balance received from the sale of the Old Latin School House in School Street, as stated on page 19,	1,700 00	
		17,700 00
Total as above,		$885,200 00

Auditor's Office, 5th June, 1845.

E. COPELAND, Jun'r.

Auditor.

CITY EXPENDITURES.

Statement of the EXPENDITURES on account of the CITY OF BOSTON, during the financial year, which commenced with the first day of May, 1844, and closed with the last day of April, 1845.

AUDITOR OF ACCOUNTS. Amount paid to the Auditor of Accounts, at sundry times, by direction of the Committee on Accounts, to enable him to pay, in advance, such Bills and Accounts against the City, as circumstances require to be paid before the regular pay day, which is the first day of every month,	
Per Item No. 1, *of Treasurer's Account,*	1,500 00
N. B. This Amount is refuuded by the Auditor, and appears to his credit in Item No. 50 *of the Treasurer's Account.*	
ADVERTISING. Paid for the yearly Advertising of the City in six daily papers, as per contract, including one copy of each for the Mayor and Aldermen's Room.	
Per Item No. 2 of Treasurer's Account,	900 00
ANNUITIES. Paid the amount which the	
Amount carried forward,	$2,400 00

Amount brought forward,		$2,400 00
City has contracted to pay during the life of the individual of whom George's and Lovell's Islands in Boston Harbor, were purchased,	400 00	
Paid the stipulated annuities to two other persons having a life estate in Lands taken for City improvements,	225 00	
	625 00	
Deduct amount not called for,	100 00	
Per Item No. 3 of Treasurer's account,		525 00
BRIDGES. For Repairs of the South Free Bridge, to South Boston,	1,935 98	
For Repairs of the North Free Bridge to South Boston,	490 97	
For Repairs of the Canal Bridge,	60 18	
Per Item No. 6 of Treasurer's account,		2,487 13
BELLS AND CLOCKS. For Ringing six Bells in different parts of the City, to denote the hours of the day,	480 00	
For winding up, Regulating and Repairing the Public Clocks,	237 56	
Per Item No. 5 of Treasurer's account,		717 56
BURIAL GROUNDS. Expended during the year, for Care and Repairs of the Funeral Cars; and general care and Improvement of the Burial Grounds,	287 00	
For the construction of 5 new Tombs in the South Burial Ground,	465 00	
Expenses of the year,	752 00	
Deduct amount not called for,	3 00	
Per Item No. 4 of Treasurer's account,		749 00
COMMON, MALLS, &c. Expended for Care and Improvement of the Com-		
Amount carried forward,		$6,878 69

Amount brought forward,			6,878 69
mon, Malls, &c., including the Salary of the General Superintendent,		506 45	
Repairing wall, and other Improvements on Copp's Hill,		499 19	
Expended on Lands in front of City Hall, and on Fort Hill,		13 57	
Per Item No. 7 of Treasurer's account,			1,019 21
COMMON SEWERS. *See Sewers and Drains.*			
CITY DEBT. For the whole amount of the Permanent Debt of the City, which became due in this financial year,		226,100 00	
For amount of City Stock due in the last financial year, but not called for before the close of that year,		1,900 00	
Per Item No. 8 of Treasurer's ac't,		228,000 00	
Amount of City Stock, purchased and paid for before it became due, by the Committee on the Reduction of the City Debt,	46,000 00		
Premium paid on said purchase,	960 00		
Per Item No. 9 of Treasurer's account,		46,960 00	
			274,960 00
ENGINE AND HOOK AND LADDER HOUSES. Rent of an Engine House in South Boston, and one do. in Pearl Street,		209 75	
Rent of the Wall of Engine House No. 5 in Dock Square,		12 00	
Repairs, alterations, &c. on various Engine Houses,		425 22	
Amounts carried forward,		$646 97	$282,857 90

Amount brought forward,		282,857 90
Expenses of the year,	646 97	
Deduct amount not called for,	1 55	
Per Item No. 11 of Treasurer's account,		645 42
EXTERNAL HEALTH DEPARTMENT. Repairs and Supplies of the Quarantine Boat,	478 07	
Visits to the Island by the Committee on Quarantine; Medicines, &c.	150 97	
Expenses for the year,	629 04	
Deduct amount not called for,	3 24	
Per Item No. 10 of Treasurer's account,		625 80
FIRE DEPARTMENT. *Exclusive of Engine Houses and Reservoirs, and Chief Engineer's Salary,*		
Yearly compensation to the Assistant Engineers and Officers and Members of the various Hook and Ladder, Hose and Engine Companies,	34,695 83	
Repairs of Engines, Hose Carriages, Hook and Ladder Carriages, and other apparatus belonging to the Department,	2,231 05	
New Leading and Suction Hose,	1,919 50	
Fuel, and Oil for oiling the Hose; for the Torches and for the Engine Houses,	685 99	
Police Officers, for atttendance at fires,	414 00	
Ringing alarm Bells,	68 75	
Repairs of Hose, Buckets, Caps, and Lanterns; new Caps, Badges, Buckets, Lanterns, Furniture for Engine Houses, and expense of locking up the Bells so as to prevent false alarms,	1,171 51	
Filling Reservoirs and Care of Fire Plugs,	270 66	
Amounts carried forward,	$41,457 29	$284,129 12

Amounts brought forward,	41,457 29	284,129 12
Repairs of Damages occasioned by the Department, and Expenses of Refreshments furnished to Engines which came to our assistance from the neighboring towns,	259 40	
Horses for drawing Engines to Fires, and to and from Mechanic's Shops for repairing,	109 37	
Blank Books, Stationery, and Engraved Certificates of Membership,	39 74	
Expenses of collecting Apparatus after fires, sweeping out, and making fires in the Engineer's Office, and other Miscellaneous Expenses of the Department,	142 66	
Expenses of the year,	42,008 46	
Deduct amount not called for,	434 68	
Per Item No. 12 of Treasurer's ac't,		41,573 78

The Pay of the Members of the Department is as follows:—

To the Assistant Engineers,	$150	*per annum,*
To the Foremen of Engines,	100	" "
To the Stewards,	100	" "
To the Assistant Stewards,	75	" "
To the Clerks,	75	" "
To the Privates,	65	" "

FIREMEN. Amount paid to Members of the old Fire Department, under an ordinance of the City Council, (*now abolished*) which allowed annually to each Member of the Department, a sum equal to his Poll Tax,	
Per Item No. 44 of Treasurer's ac't,	3 00
FRANKLIN SCHOOL HOUSE. See New Franklin School House.	
GAS FIXTURES. For new Lamp Posts, and Fixtures to extend the use of Gas in lighting the City,	
Per Item No. 13 of Treasurer's ac't,	639 98
Amount carried forward,	$326,345 88

Amount brought forward,		326,345 88
HOUSE OF CORRECTION. Subsistence and supplies of the House, exclusive of Furniture, Fuel, Clothing, and Bedding,	7,709 12	
Fuel,	1,770 81	
Clothing and Bedding,	1,313 22	
Salaries of the Master and his Assistants; Clerks to the Board of Directors and to the Master; Chaplain, Matrons and all other Salaries and hired labor,	4,973 58	
Repairs and alterations on the Buildings, including means for warming, and lumber, &c. for work shops,	1,102 79	
Agricultural and Horticultural Department, being for cost and keeping of Live Stock; Cost and Repairs of Waggons, Carts, Harnesses, &c. and Improvement of the Grounds, Trees, Plants, &c.	326 89	
Furniture—for the purchase of new, and repairs of old,	290 54	
Medical Department,	223 16	
Printing, School Books, Blank Books, Stationery, Postage and Advertising,	254 28	
Carriage Hire for the Overseers,	108 75	
Do. do. for Sunday School Teachers,	104 00	
Travelling Expenses of Officers and Agents, and expense of arresting fugitives,	179 75	
Grants of Money to inmates on their discharge,	55 74	
Palm-Leaf purchased for manufacturing,	38 25	
Transportation of supplies,	118 27	
Expenses of the year,	18,569 15	
Deduct amount not called for,	16 00	
Per Item No. 14 of Treasurer's ac't,		18,553 15
Amount carried forward,		$344,899 03

Amount brought forward,		344,899 03
The income from this Establishment, has been $10,772 12, *thus reducing the Expenses of the year to* $7,781 03.		
HOUSES OF INDUSTRY AND REFORMATION.		
Subsistence and supplies of the Houses, exclusive of Furniture, Fuel, Clothing and Bedding,	12,623 78	
Fuel,	2,668 39	
Clothing and Bedding,	2,478 70	
Salaries of the Superintendent and Assistants; Clerk of the Board of Overseers; Matrons; Teamsters; Gate Keeper; Teachers, and all other Salaries and payments for hired labor,	4,810 27	
Repairs and Alterations, including new Copper Gutters; a new Aqueduct; Lumber for manufacturing purposes, &c.,	2,084 31	
Agricultural and Horticultural Department, including cost, and keeping of Live Stock; cost and repairs of Wagons, Carts, Harnesses, &c.—Trees, Plants, Seeds, and other Expenses of this Department,	2,102 53	
Furniture—for the purchase of new, and repairs of old,	398 39	
Medical Department,	716 99	
Printing, Blank Books, School Books, Stationery, Postage, Advertising, &c.	199 05	
Carriage hire for Directors, travelling Expenses of Officers and Agent, and Expense of arresting fugitives,	138 73	
Junk purchased for manufacturing,	649 33	
Expense of conveying Paupers to the House, credited to the Internal Health Department,	230 75	
Rent of a piece of Land adjoining the premises, hired and improved for Agricultural purposes,	50 00	
Per Item No. 15 of Treasurer's ac't,	———	29,151 22
Amount carried forward,		$374,050 25

Amount brought forward,		374,050 25
N. B. The income from these Establishments has been $15,637 20, *which leaves the Net Expenses of the year,* $13,514 02.		
HAY SCALES. Amount allowed to the Keeper of the Southern Hay Scales, in addition to the fees received by him for weighing, as per order of the City Council of February 1844, Per Item No. 45 Treasurer's account,		250 00
N. B. The amount of Fees received at these Scales, during the year, has been short of $80.		
HIGH SCHOOL HOUSE. *See New Latin, and High School House.*		
INSTRUCTERS. *For the Salaries of the Masters and Teachers* in all the Schools except the Primary Schools, viz :*		
Adams School, in Mason Street,	4,625 00	
Bowdoin School, in Derne Street,	4,750 00	
Boylston, on Fort Hill,	4,850 00	
Brimmer, in Common Street,	4,700 00	
Eliot, in North Bennet Street,	4,762 49	
Endicott, in Cooper Street,	4,600 00	
Franklin, in Washington Street,	4,762 50	
High, in Bedford Street,	5,377 35	
Hawes, at South Boston,	4,350 00	
Hancock, in Hanover Street,	4,500 00	
Johnson, in Tremont Street,	4,500 00	
Latin, in Bedford Street,	6,050 00	
Lyman, at East Boston,	2,600 00	
Mayhew, in Hawkins Street,	4,700 00	
Mather, at South Boston,	4,607 10	
New North—*Branch*, Hanover St.	3,716 65	
	73,551 09	
Amounts carried forward,		$374,300 25

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* Except for Singing and Drawing

Amounts brought forward,	73,551 09	374,300 25
New South, *branch*, Washington St.	753 00	
Phillips, (*old High*) Pinckney St.	2,761 67	
Smith, *colored*, in Belknap Street,*	1,825 00	
Wells, in Blossom Street,	5,216 44	
Winthrop, in East Street,	4,897 91	
		89,005 11
Per Item No. 18 of Treasurer's ac't,		
INTERNAL HEALTH DEPARTMENT.		
Services of persons employed in collecting and carrying out of the City, the House Offal,	15,001 17	
Services of the persons employed in sweeping the Streets, removing Street Dirt, &c.	5,624 01	
Grain, Hay, Straw, &c. used in the City Stables,	5,594 55	
Salaries of two Blacksmiths, two Wheelwrights, one Harness maker, two Stablers, and one Watchman, who are constantly employed on the premises,	3,459 00	
New Horses, and difference on exchange of old ones,	1,305 00	
Fuel and Stock used for manufacturing and repairs in the Blacksmith, Wheelwright and Harness Maker's shops,	1,192 68	
Repairs on the Buildings,	791 23	
Shovels, Hoes, Brooms, Water Pots, and other Contingent expenses,	617 16	
Hire of Extra Teams to aid in carting 2,543 four-horse waggon loads of House Offal out of the City during the year,	423 40	
	34,008 20	
Amounts carried forward,		463,305 36

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* This is exclusive of $200 paid from the income on the "*Smith Fund.*"

Amounts brought forward,	34,008 20	463,305 36
Cleaning and Repairing Cess Pools, &c.	399 77	
Abatements of Nuisances, at sundry times and places,	327 27	
Paints, Oil, Drugs, &c.	125 97	
Salary of the Assistant to the Superintendent of Streets, and of Internal Health Department,	120 00	
	34,981 21	
Deduct for a proportion of the cost of keeping Horses, &c. used in the Paving Department, and charged to that account,	1,800 00	
Per Item No. 16 of Treasurer's ac't,		33,181 21

N. B. There has been $7,795 96 *received to the Credit of this Department, being for Sales of House Offal, Street Manure, &c.*

INCIDENTAL EXPENSES, *for the following Payments which do not properly belong to any other Appropriation.*

Celebration of the ANNIVERSARY of AMERICAN INDEPENDENCE, including the Fireworks, Music on the Common, and care of the Flag Staff on the Common,	3,679 39	
Expenses of Counsel and other Expenses relating to the project of supplying the City with Pure Water,	3,106 67	
Taxes refunded, in conformity with a decision of the Supreme Court, and Abatements made		
	6,786 06	
Amounts carried forward,		$496,486 57

Anounts brought forward,	6,786 06	496,486 57
by order of the Mayor and Aldermen,	1,437 52	
Extra Clerk Hire in Treasurer's Office, and in the Assessors' Office, making out List of qualified voters, &c.	1,035 99	
Expense of Police Officers and Bell Ringers for the Ward Meetings,	1,040 23	
Support of Paupers in the State Lunatic Hospital at Worcester, and Prisoners in the Middlesex House of Correction, for which the City is liable,	878 09	
Gas Light for the Public Offices, Faneuil Hall and Armories,	774 35	
Rewards paid for the detection of illegal voters, and of persons raising false alarms of fire,	727 25	
Fuel for the Public Offices,	583 33	
Allowance to Military Companies towards rent of their Armories,	530 00	
Part of the Expense of deepning the Dock at Brown's wharf,	500 00	
Expense of Committees of the City Government, and the Annual visit of the Government to the Quarantine Establishment at Rainsford Island,	482 50	
Care and cleaning, making fires, &c. &c. in the Public Offices, small repairs and other incidental expenses at City Hall,	382 87	
Furniture—New Furniture for the Public Offices and repairs of old,	270 57	
	15,428 76	
Amounts carried forward,		496,486 57

Amounts brought forward,	15,428 76	496,486 57
Expenses of Law suits against the City,	197 83	
Expense of watering School St. and Charles Street,	187 00	
Powder and Cartridges for the use of the Militia, as required by the State Law,	172 58	
Refunded to the City Marshal, a fine imposed upon him by the Municipal Court, for exceeding his authority in the exercise of his official duties,	144 84	
Damages paid in consequence of the streets being out of repair,	130 00	
Carriage Hire for Officers and Committees of the City Government,	111 25	
Salary of the Assistant Messenger to the City Council,	108 00	
Recording Deeds and Mortgages of Real Estate, bought and sold by the City,	102 00	
Salary of the Keeper of Faneuil Hall, and cleaning the same, opening, lighting, &c. for Public meetings,	82 00	
Postages and Law Books,	45 46	
Taking down a Building and removing the materials of the same which obstructed Bowdoin Street,	40 00	
Taking down the walls of the Franklin School House, after the fire there in June,	27 25	
Taking down and changing the location of the Pound at South Boston,	16 44	
	16,793 41	
Amounts carried forward,		496,486 57

Amounts brought forward,	16,793 41	426,486 57
Plans and surveys,	14 50	
Sealing Public Scales, &c.	11 00	
Expenses of the year,	16,818 91	
Deduct amount not called for,	80 51	
Per Item No. 17 of Treasurer's ac't.		16,738 40
INTEREST. Amount paid for Interest on the Funded Debt of the City, and on the temporary Loans obtained in anticipation of the Annual Taxes,		
Per Item No 46 of Treasurer's ac't,		70,975 41
LAMPS. Paid for Oil, and Wicking for the Street Lamps,	9,526 37	
Gas for the same,	6,784 66	
Services of Lamp Lighters,	5,995 82	
New Lamps and Lamp Posts, and repairing old ones,	1,942 09	
Salary of Superintendent,	500 00	
Per Item No. 19 of Treasurer's ac't,		24,748 94
LATIN SCHOOL HOUSE. See New Latin and High School House.		
LUNATIC HOSPITAL.		
Subsistence and Supplies of the House, exclusive of Clothing and Bedding, Furniture and Fuel,	5,439 31	
Salaries of the Superintendents, Steward and Matron, and Assistants, and all other Salaries and hired labor,	3,009 74	
Clothing and Bedding,	1,003 18	
Fuel,	932 82	
Repairs and alterations of the Buildings,	764 10	
	11,149 15	
Amounts carried forward,		608,949 32

Amounts brought forward,	11,149 15	608,949 32
Agricultural and Horticultural Departments, including cost and keeping of Live Stock, cost and repairs of Waggons, Carts, and Harnesses, Trees, Plants, and other expenses of this Department,	420 85	
Furniture—purchases of new, and repairs of old,	318 31	
Medical Department,	133 52	
Printing, Blank Books, Stationery, and Postage,	55 84	
Transportation of supplies,	46 92	
Carriage Hire, and Travelling Expenses of Officers and Agents of the Institution, and Expense of arresting fugitives,	34 88	
Expenses of the year,	12,159 47	
Deduct amount not called for,	100 00	
Per Item No. 20, Treasurer's ac't,		12,059 47

There has been received to the Credit of this Establishment, during the year, the sum of $9,384 28, *which reduces the Expenses of the same to* $2,675 12.

NEW SOLITARY ROOMS, connected with this Establishment, *for the confinement of those Patients whose situation render them, occasionally, unfit tenants of the main House.*

Cost of the Building,	5,692 98	
Deduct amount not called for,	41 94	
Per Item No. 37, Treasurer's ac't,		5,651 04

LANDS. See Public Lands.

MARKET HOUSE. Salary of the Assistant Clerk, and Public Scale Keeper,

Amount carried forward,		626,659 83

Amount brought forward,		626,659 83
Watchmen and Sweepers,	1,205 68	
Fuel and Lights,	769 42	
Expenses of sundry Law suits, brought against the Clerk of the Market, by sundry individuals for supposed infringement of their rights by him, while in the discharge of his official duties,	353 25	
Repairing Public Scales, and incidental expenses of the Establishment,	200 94	
Expenses of the year,	2,529 29	
Deduct amount not called for,	25 00	
Per Item No. 21 of Treasurer's ac't,		2,504 29
MILITARY BOUNTY. Paid in conformity to an Act of the Legislature of March 1840, to certain persons for the performance of Volunteer Militia duty,		
Per Item No. 21 of Treasurer's account,		4,198 50
NEW LATIN AND HIGH SCHOOL HOUSE. Expended for completing this Building, which was commenced in the year 1843,		
Per item No. 23 of Treasurer's account,		8,110 46
The amount paid on this House last year, and charged on page 36 *of Report No.* 32, *was* $49,400 35, *which, added to the above amount, makes the whole cost of the Building*, $57,510 81.		
NEW GRAMMAR SCHOOLHOUSE. See Otis School House.		
NEW FRANKLIN SCHOOL HOUSE. Paid thus far on the contract for re-building		
Amount carried forward,		641,473 08

Amount brought forward,		641,473 08
the new Franklin School House, on an enlarged scale, on the site of the old one,		
Per Item No. 24 of Treasurer's account,		11,566 62
NEW SOLITARY ROOMS AT LUNATIC HOSPITAL. *See Lunatic Hospital.*		
OVERSEERS OF THE POOR. Paid the Treasurer of this Board, for their Annual distributions among the Poor in the different Wards of the City,	13,907 00	
Salary of the Secretary of the Board,	800 00	
Cost of Coffins, furnished by the Houses at South Boston, and credited in their account,	155 00	
Superintendent of Burial Grounds for burying the Poor, which amount is credited to that Department,	138 00	
Per Item No. 26 of Treasurer's account,		15,000 00
N. B. There has been received to the Credit of this Board during the year, the sum of $7,344 81, *thus reducing the Expenses of the year, to* $7,665 19.		
OLD HIGH SCHOOL HOUSE. Expended for altering this Building, now known as the PHILLIPS School House in Pinckney street, so as to fit it for the accommodation of the usual number of Grammar and Primary Schools		
Per Item No. 25 of Treasurer's account,		2,945 59
OTIS SCHOOL HOUSE. For cost of the Land and Building lately erected on Causeway street, to accommodate a Grammar and Writing School, and the usual number of Primary Schools,		
Amount carried forward,		670,985 29

Amount brought forward,		670,985 29
Per Item No. 22 of Treasurer's account,	29,473 32	
Less—a part of the original land purchase, resold as per Item No. 25 of Treasurer's account, for	3,681 54	
Making the net cost of this School House,		25,791 78
OLD CLAIMS. Paid this year, bills and accounts against the City, which had been audited, allowed, and charged to the Appropriations of previous years, but not called for in those years,		
Per Item No. 27 of Treasurer's account,		793 76
PRIMARY SCHOOLS. Salaries of the Teachers in Primary Schools at $250 per annum,	29,239 84	
Repairs and alterations of the Rooms, including Stoves and other means of warming them; fitting up new Rooms, &c. &c.	3,625 25	
Rent of Rooms hired by the City,	3,675 08	
Fuel, housing and preparing the same for use,	1,885 76	
Furniture, Brooms, Brushes, Matts, &c. for the new School Rooms and old ones,	956 92	
Paid to the Chairman of the P. S. General Committee, the usual allowance for 116 Schools, at two dollars for each, to be expended for the encouragement of the Scholars,	232 00	
Salary of the Secretaries of the		
	39,614 85	
Amounts carried forward,		$697,570 83

Amounts brought forward,		39,614 85	697,570 83
General P. S. Committee and of the Standing Committee of that Board,		140 50	
Cleaning the Rooms, removing snow, &c.		445 11	
Expenses of the year,		40,200 46	
Deduct amount not called for		2 50	
Per Item No. 28 of Treasurer's account,			40,197 96
PRIMARY SCHOOL HOUSES. Cost of a lot of Land in Blossom street,	2,620 00		
Cost of the Building erected on the same,	3,449 50		
Cost of the Blossom street P. S. House		6,069 50	
Cost of a Lot of Land on Charter street,	3,089 07		
Cost of the Building, erected on the same,	3,343 70		
Cost of the Charter street P.S.House,		6,432 77	
Per Item No. 33 of Treasurer's account,			12,502 27
PUBLIC BUILDINGS. *Expended for alteration and repairs on the Public Buildings, as follows ;—*			
Faneuil Hall—fitting up the attic for the use of the National Lancers ; and ordinary repairs on the Building,		186 31	
Amounts carried forward,		186 31	$750,271 06

Amounts brought forward,		186 31	750,271 06
Market House—Slating, Painting, and other repairs,		828 05	
Old State House—New Doors and Windows to the basement story, Painting, &c.		934 11	
City Hall—Ventilating Common Council Room, Painting, and various repairs,		734 01	
City Wharf—Repairs of Platform, &c.		356 51	
Brown's Wharf—Expense of deepening the Dock 642 58; less charged to incidental expenses, 500,	142 58		
Repairs on Buildings,	84 76		
		227 34	
South Gun House—sundry repairs; and removing Engine House on Suffolk street,		35 41	
Deer Island—allowed tenants for repairs,		10 00	
South Hay Scales—sundry repairs,		17 39	
Per Item No, 29 of Treasurer's ac't,			3,329 13
PUBLIC LANDS. Making the Streets and Common Sewers on lands bottom of the Common, and W. of Pleasant st.		2,228 96	
Widening Tremont Street, and planting Trees on it,		3,203 76	
Filling up Canton and Suffolk streets,		512 87	
Plans, Surveys, Grading, &c.		224 75	
Per Item No. 32 of Treasurer's ac't,			6,170 34
PAVING and REPAIRS OF STREETS. Paving Stones, Edge Stones, Flag Stones, Bricks, Gravel, Sand, &c. used in Paving			
Amount carried forward,			$759,770 53

Amount brought forward,		759,770 53
and Repairing the Streets,	14,590 51	
Master Pavers for their work,	10,105 68	
Laborers for work,	8,698 36	
Drains and Cess Pools,	1,060 58	
Levelling and carting away snow and ice from the streets,	880 50	
Carting materials,	688 97	
Plans and Surveys, Street Signs, taking levels, &c.	419 21	
Damages allowed in consequence of Streets being out of repair,	323 18	
Trees, and Planting the sam,e	172 00	
Proportion of the cost of keeping the Horses used by this Departmeat, which is deducted from the *Internal Health Department*, on page 33,	1,800 00	
Expenses of the year,	38,738 99	
Deduct amount not called for,	7 00	
Per Item No. 30 of Treasurer's ac't,		38,731 99
POLICE.		
Service of the Regular Police Officers in various parts of the City, for the preservation of the Peace, during the day and night, including Sundays,	8,277 06	
Extra services on Public Days,	521 11	
Other special services,	389 64	
Notifying and attending the usual Ward Meetings, and distributing the Auditor's Annual Reports, Notifications, &c.	168 17	
Keeping Horse and Chaise for the use of City Marshal; and Carriage hire,	336 60	
Amounts carried forward,	9,692 58	798,502 52

Amounts brought forward,	9,692 58	798,502 52
Postages, Badges, Batons, &c.	69 59	
Per Item No. 30 of Treasurer's ac't,		9,762 17
PRINTING AND STATIONERY.		
Printing City Documents, Blanks, Notifications, &c.	3,142 21	
Blank Books, and Binding,	329 40	
Stationery for Public Offices, and Members of the Government,	317 01	
Per Item No. 31 of Treasurer's ac't,		3,788 62
RESERVOIRS.		
For the construction of four new Reservoirs, viz, one at South Boston, one at East Boston, one on Beach Street, and one on Suffolk, near Cherry Street,		
Per Item No. 36 of Treasurer's ac't,		2,050 34
RESERVED FUND. Cost of a new Watch House on Canton Street, charged to this Fund by order of the City Council,		
Per Item No. 35 of Treasurer's account,		665 00
STREETS. *See Paving and Repairs of Streets.*		
SCHOOLS. *Contingent Expenses of all the Schools, except the Primary Schools, viz :*		
Repairs and alterations on the Buildings, including the methods of warming them, and cost of enlarging the Bowdoin School House, in Derne street,	7,798 95	
Repairing damage occasioned by the fire at the Phillips School House in Pinckney street,	1,005 75	
Salaries of the Singing and Drawing Masters,	2,572 83	
Care of the Buildings, cleaning, making fires, shovelling snow, &c.	2,734 82	
Amounts carried forward,	14,112 35	$814,768 65

Amounts brought forward,		14,112 35	814,768 65
Fuel—housing the same, and preparing it for use,		2,709 81	
Furniture—Purchase of old, and repairs of new, including the new School Rooms,		2,002 49	
Rent of Rooms hired for the accommodation of the Scholars, during the re-building of the Franklin School House,		615 00	
Expense attending the Annual visitation in August,		455 60	
Ink for the Writing Department,		170 50	
Philosophical Apparatus,		225 00	
Books furnished to indigent Scholars,		259 10	
Salaries of the Secretary and Messenger of the School Committee,		250 00	
Blank Books and Stationery for the Masters and Teachers,		183 76	
Cost of 96 Silver Medals awarded at the examination to the most deserving pupils of each sex,	153 89		
Less—paid from the income on the Franklin Medal Fund,	50 00		
		103 89	
Water Rents,		46 50	
Expenses of the year,		21,134 00	
Deduct amount not called for,		15 54	
Per Item No. 38 of Treasurer's account,			21,118 46
Amount carried forward,			$835,887 11

Amount brought forward,			835,887 11
SALARIES. *Paid the following Salaries to the City and County Officers, viz :*			
Mayor.			
Martin Brimmer, 9 mos.		1,875 00	
Thomas A. Davis, 33 days,		226 05	
William Parker as Chairman of the Board of Aldermen, during the Elections for Mayor,		375 57	
		2,476 62	
Treasurer,			
Richard D. Harris, 2 mos. 8 ds.	361 70		
J. C. Dunn,	1,638 30		
	2,000 00		
Clerk hire,	2,500 00		
		4,500 00	
City Clerk,			
S. F. McCleary,	1,500 00		
Clerk hire,	600 00		
		2,100 00	
Clerk Common Council,			
Washington P. Gregg,		600 00	
Auditor,			
E. Copeland, Jr.		1,500 00	
Port Physician,			
J. V. C. Smith,		1,400 00	
Assessors,			
Samuel Norwood,	1,200 00		
Clerk hire,	133 33		
		1,333 33	
Thomas Jackson, 1 mo.		100 00	
George Jackson,	1,200 00		
Clerk hire,	133 33		
		1,333 33	
Amounts carried forward,		15,343 28	$835,887 11

Amounts brought forward,		15,343 28	835,887 11
Henry Sargent, 11 mos.	1,100 00		
Clerk hire,	133 34		
		1,233 34	
Solicitor and Attorney,			
J. Pickering, Solicitor, 1 quarter, at $1,200,	300 00		
E. G. Austin, Attorney, 1 quarter, at $500,	125 00		
J. Pickering, 3 qrs. at $1,500,	1,125 00		
		1,550 00	
Streets,			
Zephaniah Sampson, Superintendent,		1,100 00	
Lands and Buildings,			
Freeman L. Cushman, Superintendent,		1,100 00	
Sewers and Drains,			
Charles B. Wells, Superintendent,		1,100 00	
Burial Grounds,			
Samuel H. Hewes, Superintendent,		1,000 00	
Fire Department,			
William Barnicoat, Chief Engineer,	1,200 00		
Henry Hart, Clerk of Engineers,	400 00		
		1,600 00	
Police Department,			
James H. Blake, Marshal,	1,100 00		
Hezekiah Earle, Deputy Marshal,	700 00		
	1,800 00	24,026 62	
Amounts carried forward,			$835,887 11

Amounts bro't forward,	1,800 00	24,026 62	835,887 11
Ira Gibbs, Deputy Marshal,	700 00		
		2,500 00	
Lunatic Hospital,			
Charles H. Stedman, Sup't.		1,000 00	
Clerk of the Market,			
Daniel Rhodes,		900 00	
Messenger of City Council,			
Johnson Colby,		800 00	
Quar. Island Keeper and Boatman,			
George P. Tewksbury,		600 00	
Bridges,			
Samuel Jenkins, Superintendent, North,	500 00		
John Bragg, Superintendent, South,	200 00		
		700 00	
CITY OFFICERS,		30,526 62	
COUNTY OFFICERS, viz :			
Police Court,			
Judge Rogers,	1,500 00		
Judge Cushing,	1,500 00		
Judge Merrill,	1,500 00		
Clerk,			
Thomas Power,	1,400 00		
Assistant Clerk,			
William Knapp,	900 00		
		6,800 00	
Expenses of the year,		37,326 62	
Deduct amount not called for,		150 00	
			37,176 62

SEWERS, WELLS AND PUMPS.

For the construction of Common Sewers in the following places, viz :

Amount carried forward,	$873,063 73

Amount brought forward,		873,063 73
Turnpike street and Broadway South Boston; Beacon street; Boylston street; Beverly street; Cooper street; Cross street; Canton street; Charlestown street; Charles street; Haverhill street; Market street; Salem street; Malden street; Stillman street, and Harrison Avenue,	7,496 71	
Building new Cess-pools; cleaning and repairing old ones; repairing Sewers, and refunding assessments erroneously made,	1,094 67	
Plans and Surveys,	94 00	
Repairs of Wells and Pumps,	89 44	
Per Item No. 40 of Treasurer's account,		8,774 82

STATE TAX.

Paid the City's proportion of the State Tax of $75,000		25,488 75

SOLITARY ROOMS AT LUNATIC HOSPITAL. *See Lunatic Hospital.*

TEMPORARY LOANS.

Repaid the whole amount borrowed on an order of the City Council, of June 20th, 1844, authorizing a Loan, in anticipation of the yearly Taxes, of 1844; said Loan to be re-paid within the financial year,

Per Item No. 49 of Treasurer's account,		205,604 86

UNLIQUIDATED STREET CLAIMS.

Paid the following Claims, being for damages, and Lands taken, in former years, for widening and extending Streets, viz;

Clinton and North Market street,	2,595 13	
Cross street,	2,507 37	
Harrison Avenue,	1,103 43	
Essex street,	236 25	
Amounts carried forward,	6,442 18	1,112,932 16

Amounts brought forward,	6,442	18	1,112,932	16
Washington street,	200	00		
Fulton street,	125	00		
Per Item No. 41 of Treasurer's account,			6,767	18
WIDENING STREETS.				
Paid for Land, and other damages consequent on Widening and improving of Streets, during this financial year, viz :				
Lincoln street,	11,097	80		
Washington, near Boylston,	10,595	57		
do. near West,	8,517	93		
Union street,	10,031	51		
Federal street,	2,513	87		
Hanover street,	1,866	38		
Richmond street,	1,845	67		
Purchase street,	1,540	67		
Garden street,	543	50		
Merrimac street,	450	00		
Bedford street,	408	33		
Ann street,	312	50		
Salem street,	300	00		
Tremont street, corner Hollis,	249	50		
Sea street,	217	74		
Myrtle street,	194	87		
School street,	168	75		
Fleet street,	80	00		
Devonshire street,	25	00		
Plans and surveys,	90	50		
Expense of the year,	51,050	09		
Deduct amount not called for,	708	33		
Per Item No. 43 of Treasurer's account,			50,341	76
WATCH DEPARTMENT.				
Services of 135 Watchmen, at 90 cts. per night, for the Men, and $1,00 per night for Constables of the Watch,	46,305	33		
	46,305	33		
Amounts carred forward,			1,170,041	10

Amounts brought forward,	46,305 33	1,170,041 10
Salary of the Captain,	400 00	
Fuel and Oil for the Watch Houses,	380 24	
Rent of a Watch House at Boylston Market, and one at South Boston,	311 10	
Repairs and alterations on Watch Houses, and care and cleaning the same, including apparatus, for warming,	258 37	
Furniture, Beds, Bedding, Hooks, Rattles, &c.	202 85	
Medical attendance, on persons brought in sick or wounded,	47 50	
Per Item No. 42 of Treasurer's account,		47,905 39
WELLS AND PUMPS. *See Sewers, &c.*		
Total Payments on City account,		$1,217,946 49

Office of the Auditor of Accounts,

5th June, 1845.

E. COPELAND, Jr.,

Auditor.

COUNTY EXPENDITURES.

Statement of the Expenditures on account of the County of Suffolk, during the financial year which commenced with the first day of May, 1844, and ended with the last day of April, 1845.

Buildings. Repairs and alterations on the County Buildings, viz: the Court House in Court street, Jailor's House and Jail in Leverett street, and the Registry of Deeds and Probate Office in Court Avenue, including the means for warming	849	99
Fuel and Light for the various Offices, &c.	1,580	25
Printing, Binding, Blank Books and Stationery	931	77
Salary of the General Superintendent of the Court House	700	00
Constable's, Crier's and Messenger's attendance on Police and Justices' Court, and care and cleaning the same	626	39
Amount carried forward,	4,688	40

Amount brought forward,	4,688 40	
Crier and Keeper of the Municipal Court, and Grand and Traverse Jury Rooms	450 00	
Furniture—new, and repairs of old	346 47	
Care and cleaning of the Registry of Deeds and Probate Office	213 50	
Salary of the Secretary of the Board of Accounts, for five quarters	187 50	
Cleaning and making fires in Court House	170 00	
Drugs and Medicines for Jail	19 91	
Dinner for Prisoners on Thanksgiving Day	14 60	
Estimates and Plans for a New Jail	35 00	
	6,125 38	
Deduct amount not called for	62 19	
Amount paid on the Mayor's Drafts through the Auditor's Office, as per County Treasurer's account		6,063 19

The following Items are paid by the Treasurer, on Warrants or Certificates, from the different Courts; and are not, in any manner, under the control or supervision of the City Government, viz:

Fees to Witnesses, Jurors, &c.	44,555 21
Balance of Jail accounts, being Expense of keeping Prisoners, &c. in Jail	4,576 76
Amount carried forward,	$55,195 16

Amount brought forward,	55,195 16
Services of the "*Board of County Accounts*," which is composed of the Judge of Probate, and the Judges of the Police Court	216 00
Total payments on account of the County, exclusive of $6,800 paid to the Judges and Clerks of Police Court, and charged to "*Salaries*" in the account of City Expenditures, as per County Treasurer's account	$55,411 16

Office of the Auditor of Accounts,
June 5th, 1845.

E. COPELAND, Jr.,
Auditor.

INCOME OF THE CITY.

Statement of the amounts received on account of the City of Boston, during the financial year which commenced with the first day of May, 1844, and ended with the last day of April, 1845.

AUDITOR OF ACCOUNTS.		
Received from him in re-embursement of a like amount charged to him on page 24.		
Per Item No. 50 in Treasurer's account,		1,500 00
ALIEN PASSENGERS.		
Received from the Inspector of Alien Passengers, being for "*head money*" collected by him from Foreigners who are landed here.		
Per Item No. 51 of Treasurer's account,		5,764 02
BONDS AND MORTGAGES.		
Received on account of the Bonds and Mortgages which were on hand last year, viz :		
For Land west of Pleasant street,	17,727 58	
—— Neck Land,	7,142 20	
—— Land on Fort Hill,	5,440 48	
—— F. H. Market improvements,	5,000 00	
—— Flats near South Boston Bridge,	720 18	
	36,030 44	
Received on Bonds given for Neck Lands sold this year,	18,306 49	
Per Item No. 52 of Treasurer's account,		54,336 93
Amount carried forward,		61,600 95

Amount brought forward,		61,600 95
BURIAL GROUNDS.		
Received from the Superintendent for Fees, &c.	1,397 55	
Payment on Tombs sold in previous years,	357 50	
From Auditor, amount paid to him by Superintendent,	101 75	
Per Item No. 53 of Treasurer's account		1,856 80
CITY CLERK—*Received from the City Clerk, for the following Fees collected by him.*		
Publications and Certificates of Intention of Marriage,	1,005 50	
Licenses for Theatrical and other Exhibitions,	381 50	
Licenses for Dogs,	308 00	
Recording Mortgages of Personal Property,	159 25	
Certificates under City Seal,	27 25	
Licenses for the sale of second hand articles,	18 00	
Per Item No. 65 of Treasurer's account,		1,899 50
DEBT.		
Amount borrowed under the Order of 1st July, 1844, authorizing a Loan to an amount not exceeding $16,000, for a term not exceeding two years, for rebuilding the Frankin School House, which was destroyed by fire in June, after the regular Appropriations of the year had been made and provided for,		11,566 62
N. B. This amount was all that became due under the contract this year for Rebuilding the School House. The house was completed and accepted May 12, *and the balance of the cost will be charged in the accounts for* 1845–46. *The above Loan was paid off on the* 1*st of May.*		
FIRE DEPARTMENT.		
From Chief Engineer, for old Apparatus sold by him,	82 00	
Amounts carried forward,	$82 00	76,923 87

Amounts brought forward,	82 00	76,923 87
From Auditor,	3 00	
Per Item No. 55 of Treasurer's account,		85 00
HOUSE OF CORRECTION.		
Received from Overseers for proceeds of labor of the Inmates, including, sales of Fruit, &c.	10,765 81	
From the Auditor,	6 31	
Per Item No. 56 of Treasurer's account,		10,772 12
HOUSES OF INDUSTRY AND REFORMATION.		
Received from the Commonwealth for the support of State Paupers,	10,165 68	
From the Directors for proceeds of labor of the Inmates including Sales of Fruit, &c.	5,471 52	
Per Item No. 57 of Treasurer's account,		15,637 20
HAY SCALES.		
Received from the Keeper of the North Hay Scales, being for the City's share of the Fees for weighing Hay, &c.		
Per Item No. 80 of Treasurer's account,		1,085 22
N. B. Two hundred and fifty dollars of this amount was paid to the Keeper of the Southern Hay Scales, in conformity to an order of the City Council. The whole fees received at said Scales during the year was less than $100.		
INTEREST.		
Received on Bonds, Notes, Taxes, &c. and on Money deposited in Bank,		
Per Item No. 58 of Treasurer's account,		10,292 76
INTERNAL HEALTH.		
Proceeds of the Sales of House Offal, Street Manure, &c,		
Per Item No. 59 of Treasurer's account,		7,795 96
Amount carried forward,		$122,592 13

Amount brought forward,			122,592 13
INCIDENTAL EXPENSES.			
Received from Auditor on sundry accounts, Per Item No. 60 of Treasurer's acconnt,			254 14
INSTRUCTERS.			
Balance of an account received from Auditor, Per Item No. 61 of Treasurer's account,			5 53
LAWRENCE FUND.			
Donation by Hon. Abbott Lawrence, to the City of Boston, as a fund, the interest on which is to be annually applied to the encouragement of the Pupils in the English High School, Per Item No. 62 of Treasurer's account			2,000 00
LAMPS.			
Received for damages to street Lamps, Per Item No. 63 of Treasurer's account,			23 50
LUNATIC HOSPITAL.			
Received from the Commonwealth for support of State Paupers in this Institution, Per Item No. 64 of Treasurer's account,			9,384 28
LICENSES. *See City Clerk.*			
LANDS.			
Received in Cash on account of Sales of Public Lands, made during the year, in addition to what is credited to "*Bonds and Mortgages,*" viz: 14,962½ feet on Market Square, sold to the Maine Rail Road Company, for a Depot,		45,000 00	
For the sale of Brown's wharf, on Commercial street,	51,300 00		
Less—Notes and Mortgage,	40,000 00		
		11,300 00	
Neck Lands, and Sales of Grass,		* 1,817 25	
Amounts carried forward,		58,117 25	134,259 58

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* The amount of Neck Lands sold during the year was $135,584 12 for 290,322 feet.

Amounts brought forward,	58,117 25	134,259 58
A small piece on School street, of the old Latin School lot,	189 75	
Per Item No. 73 of Treasurer's account,		58,307 00
MILITARY BOUNTY.		
Received from the Commonwealth, in re-imbursement of what was paid to the Volunteer Militia, in the year 1844, in conformity with the Act of 24th March, 1840,		
Per Item No. 66 of Treasurer's account,		4,267 50
NEW LATIN AND HIGH SCHOOL HOUSE.		
Received from the Massachusetts Horticultural Society, in balance of their purchase of the Old Latin School House in School street,		
Whole purchase,	18,000 00	
Received and credited in last year's accounts,	12,300 00	
	5,700 00	
Received from Auditor on this ac't,	100 00	
Per Item No. 67 of Treasurer's account,		5,800 00
NEW GRAMMAR SCHOOL HOUSE. *See "Otis School House," in account of Expenditures.*		
OVERSEERS OF THE POOR.		
Received from the Commonwealth for support of State Poor,	5,923 17	
Received from Overseers, collections for support of poor of other towns,	1,421 64	
Per Item No. 68 of Treasurer's account,		7,344 81
PRIMARY SCHOOLS.		
Received from Auditor, on account of this appropriation,		
Per Item No. 69 of Treasurer's account,		155 83
Amount carried forward,		210,134 72

Amount brought forward,		210,134 72
PRIMARY SCHOOL HOUSES.		
Received from Auditor, on account of this appropriation,		
Per Item No. 74 of Treasurer's account,		44 50
PUBLIC BUILDINGS.		
Received for old materials from off the "*Rowe Estate*," corner of Williams Court and Court Avenue, where the New Ward Room for Ward 7 is to be built,		
Per Item No. 70 of Treasurer's account,		170 00
PUBLIC LANDS. *See Lands.*		
POLICE DEPARTMENT.		
Received from the Auditor, on account of this appropriation,		
Per Item No. 71 of Treasurer's account,		32 00
PAVING AND REPAIRS OF STREETS.		
Received from sundry persons for work done on streets and sidewalks, for which they were assessed in part,	866 94	
From Auditor, for sales of old materials by Sup't of Streets,	217 21	
Per Item No. 72 of Treasurer's account,		1,084 15
PROFIT AND LOSS.		
For this amount of Cash on hand, over and above the regular Leger balance on the 10th June, 1844, when the new Treasurer (James C. Dunn, Esq.) entered on the duties of the office,		63 19
N. B. This amount is made up of the occasional "differences" in the Cash account, on the daily settlement of the same during the thirteen years administration of the late Treasurer, Richard D. Harris, Esq.		
RESERVOIRS.		
Received from Auditor, on account of this appropriation,		
Per Item No. 72 of Treasurer's account,		26 46
Amount carried forward,		211,555 02

Amount brought forward,			211,555 02
RENTS. *The Income from Rents has been as follows, viz:—*			
MARKET HOUSE. *Thirteen months, up to May 1, 1845, so as to make the future quarterly returns of the Clerk of the Market correspond with the quarters of the financial year.*			
Stalls,	17,192 82		
Cellars,	4,565 35		
Outside Stands,	1,130 00		
Public Scales,	1,190 39		
Coal and Gas sold,	84 31		
Rent for 13 mo's.	24,162 87		
Deduct amount paid into the Treasury, by the Clerk, in the month of April, 1844, on account of the rents collected in that month,	*850 00		
	23,312 87		
Halls over the Market,	1,783 33		
		25,096 20	
FANEUIL HALL.			
Stores, Cellars and Chambers,		6,800 00	
CITY WHARF, East of Faneuil Hall,		10,000 00	
BROWN'S WHARF. Rent and Wharfage,		1,819 87	
OLD STATE HOUSE, viz:			
Lower floor,	2,125 00		
Basement and Cellars,	2,000 00		
Chambers,	2,028 66		
		6,153 66	
COURT HOUSE.			
U. S. Court Rooms, &c,		3,000 00	
DEER ISLAND and Buildings,		400 00	
Amounts carried forward,		53,269 73	211,555 02

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[*] This amount is included in the Rent account of the last year.

Amounts brought forward,		53,269 73	211,555 02
NECK LANDS on Suffolk and Northampton st.	40 00		
Tremont street,	30 00		
Harrison Avenue,	15 00		
		85 00	
CELLARS.			
City Hall,	225 00		
Primary School House, South Margin street,	20 00		
		245 00	
BUILDINGS.			
House and Shop on Commercial street,	150 00		
Carpenter's shop on Causeway street,	120 00		
		270 00	
Per Item No. 75 of Treasurer's account,			53,869 73
SEWERS AND DRAINS.			
Received from Individuals for proportion of the cost of new drains, and for the right of using old ones,		3,367 39	
Received from Superintendent, for collections by him,		1,649 00	
Per Item No. 77 of Treasurer's account,			5,016 39
TEMPORARY LOAN.			
Amount borrowed by virtue of an order of the City Council, of 20th June, 1844, authorizing a Temporary Loan, in anticipation of the Taxes of the year 1844,			
Per Item No. 79 of Treasurer's account,			205,604 86
TAXES.			
Received for Taxes collected during the year, viz :			
Tax of 1844		702,524 22	
1843		15,420 14	
1842		2,269 71	
1841		423 55	
1840		159 40	
1839		137 21	
1838		133 14	
Amounts carried forward,		721,067 37	476,046 00

Amounte brought forward,	721,067 37	476,046 00
Tax of 1837	304 50	
1836	254 75	
1835	145 08	
1834	157 30	
1833	31 45	
1832	7 96	
1831	9 16	
1830	9 24	
1829	12 95	
1828	12 47	
1827	7 35	
1826	9 40	
1825	3 69	
1823	4 40	
1822	1 50	
Per Item No. 78 of Treasurer's account,		722,038 57

WEIGHING FEES. *See Hay Scales.*

Total income of the year,	1,198,084 57
Balance on hand last year,	181,482 03
Total to the credit of the City, for the year 1844-45,	$1,379,566 60

N. B. To make the above amount agree with the amount to the credit of the City, in the Treasurer's account, the sum of $3,681 54, must be added. This amount was the proceeds of the sale of part of the Land purchased for the Otis School House. There being more than was wanted for that object, the surplus was resold, according to the original intention. The Treasurer passed this amount of Sales to the credit of the School House, having previously charged it with the whole cost of the Land, whereas in these accounts, the *net cost* of the Land only is charged to the School House.

Office of the Auditor of Accounts,
5th June, 1845.

E. COPELAND, Jr.,
Auditor.

INCOME OF THE COUNTY.

Statement of the amounts received on account of the County of Suffolk, during the financial year which commenced with the first day of May, 1844, and closed with the last day of April, 1845.

County Balances.		
Received from the Commonwealth, for balance due by them for proportions of the Costs of criminal prosecutions for the year 1844,		6,868 75
Sheriff of the County.		
Received from him for fines and Costs taxed in the Municipal Court,		6,993 75
Municipal and Police Courts.		
Fines and costs received from the Deputy Jailor,	1,123 39	
Received from Clerk of Police Court,	5,142 54	
Half surplus fees from Clerk of the Municipal Court,	1,730 61	
		7,996 54
Justices' Court.		
Fees received from the Clerk,		1,849 96
Amount carried forward,		$23,709 00

Amount brought forward,	23,709 00
SUPREME AND COMMON PLEAS COURTS.	
Received from Clerk for half surplus fees,	870 85
Received for fine in Common Pleas Court,	30 00
RENTS.	
Received from Deputy Jailor,	53 76
Total amount received into the Treasury on account of the COUNTY of SUFFOLK, as per County Treasurer's ac't,	$24,663 61

The amount paid out of the Treasury, on COUNTY Account as per details on page 54 was	55,411 16
The amount received on the same account, as per statement above was,	24,663 61
Leaving a balance against the County, as per Treasurer's account of	$30,747 55

Office of the Auditor of Accounts,

5th June, 1845.

E. COPELAND, JR.,

Auditor.

AGGREGATE
OF THE
RECEIPTS AND PAYMENTS
BY THE
CITY AND COUNTY TREASURER,
DURING THE FINANCIAL YEAR,
1844-45.

The amount of money received into the Treasury, exclusive of those funds which are solely applicable to the reduction of the City Debt, was	$1,110,104 25
The amount of Payments from the Treasury, exclusive of the amount paid on the City Debt, was	998,397 65
Excess of receipts over expenditures,	$111,706 60
The amount of Funds received during the year, and specifically applied to the reduction of the Debt, was	112,643 93
To which add the balance on hand at the commencement of the year,	181,482 03
Total of Debt fund	$294,125 96
Amount carried forward,	

Amount brought forward,		294,125 96
The amount of Debt actually paid off during the year, was		274,960 00
Balance of Debt fund,		19,165 96
Balance of City fund as per page 66		111,706 60
Balance on hand, 1st May, 1845, per Treasurer's account,		$130,872 56
The Gross amount of Payments on account of the CITY, as per account of Expenditures on page 51, is		1,217,946 49
The Gross amount of Payments on account of the COUNTY, as per statement on page 54, is		55,411 16
Total Payments,		$1,273,357 65
The Gross amount of Receipts is as follows, viz :		
On City account, as per statement of Income on page 63,	1,198,084 57	
On County account, as per statement on page 65,	24,663 61	
Total Receipts,		1,222,748 18
Excess of Payments over Receipts,		$50,609 47
Which is accounted for as follows :—		
Payments on account of the Debt,		274,960 00
Receipts on account of the same, viz :—		
Bonds and Mortgages per page 55,	54,336 93	
Land Sales, " " 59,	58,307 00	
	112,643 93	
Balance of City fund as stated on page 66, all of which		
Amounts carried forward,	112,643 93	274,960 00

Amounts brought forward,	112,643 93	274,960 00
was absorbed by said payment,	111,706 60	
		224,350 53
Balance as above stated,		$50,609 47
The Balance of Cash on hand at the commencement of the year 1844-45, was		181,482 03
The Balance on hand at the close of that year was		130,872 56
Balance as above,		$50,609 47
Of the whole amount of payments from the City Treasury during the year, the sums drawn for by the Mayor, through the Auditor's Office, the same having been previously authorized by the "Committee on Accounts," was		$920,228 42
To which add, the amount paid this year on Drafts of previous years, viz:		
On Old Claims, page 40	793 76	
On City Debt, page 26	1,900 00	
		2,693 76
		$922,922 18
From which should be deducted the amount received on account of the Otis School House, per page 40,		3,681 54
		$919,240 64
The following sums were paid on accounts which are not passed upon by the Committee on Accounts; they do not pass		
Amount carried forward,		919,240 64

Amount brought forward,			919,240 64
through the Auditor's Office, and are not drawn for by the Mayor, viz :			
Temporary Loans,		205,604 86	
Interest,		70,975 41	
County Suffolk,	55,411 16		
Less—paid by Auditor as per page 53,	6,063 19		
		49,347 97	
State Tax,		25,488 75	
Military Bounty,		4,198 50	
Hay Scales,		250 00	
Firemen,		3 00	
			355,868 49
			1,275,109 13
Deduct amount not called for			1,751 48
Total payments per page 67,			$1,273,357 65

CITY DEBT.

CHARACTER OF THE PUBLIC DEBT
As it stood at the close of the financial year, 1844-45.

Amount of 5 per cent. Stock issued under the Order of 25th Dec., 1825, for the purchase of an Estate for the improvement of Court street. *Payable at the decease of a person having a life interest in the Estate,*	20,000 00
Amount of 4½ per cent. Stock issued under the Order of 2d October, 1826, to raise funds for the redemption of certain portions of the City Debt, which bore a higher rate of interest. *Payable in the financial year* 1849–50,	30,000 00
Amount of 6 per cent Stock, being the balance of the debt contracted for the erection of the Faneuil Hall Market House, and the improvements connected therewith. *Payable in the financial year* 1854–55,	100,000 00
Balance of 5 per cent. Stock issued under the Order of 19th May, 1834, authorizing a Loan for the purposes of that financial year. *Payable in the financial year* 1854–55,	93,000 00
Amount carried forward,	$243,000 00

Amount brought forward,	243,000 00
Amount of 5 per cent. Stock issued under the Order of 6th October, 1834, authorizing a Loan for the erection of the House of Reformation at South Boston. *Payable in the financial year* 1854–55	20,000 00
Balance of the 5 per cent. Stock issued under the Order of 3d January, 1835, authorizing a Loan to meet certain deficiencies of appropriations. *Payable in the financial year* 1854–55,	11,100 00
Balance of 5 per cent. Stock issued under the Order of 26th January, 1835, authorizing a Loan to redeem other portions of the City Debt. *Payable in the financial year* 1854–55,	484,000 00
Balance of 5 per cent. Stock issued under the Order of 23d of Feb. 1835, authorizing a Loan for the erection of a new Court House. *Payable in the financial year* 1854–55,	58,000 00
Amount of 5 per cent. Stock issued under the Order of 27th April, 1835, authorizing a Loan on account of the Expense of laying out Blackstone street, and extending Commercial and Broad streets. *Payable in the financial year* 1854–55,	68,000 00
Amount of 5 per cent. Stock issued under the Order of 27th April, 1835, authorizing a Loan to defray in part the expenses of the financial year 1835–36. *Payable in the financial year* 1854–55,	25,000 00
Amount of 5 per cent. Stock issued under the Order of 5th October, 1836, authorizing a Loan to meet certain additional appropriations. *Payable in the financial year* 1846–47,	7,100 00
Amount carried forward,	$916,200 00

Amount brought forward,		916,200 00
Amount of 5 per cent. Stock issued under the Order of 12th November, 1835, authorizing a Loan to complete the House of Reformation at South Boston. *Payable in the financial year* 1846–47,		10,000 00
Amount of 5 per cent. Stock issued under the Order of 25th April, 1836, authorizing a Loan to defray in part the expenses of the financial year 1836–37. *Payable in the financial year* 1846–47,		10,000 00
Balance of the 5 per cent. Stock issued under the Order of 25th July, 1836, authorizing a Loan to meet additional appropriations for Widening and Extending Streets. *Payable in the financial year* 1846-47,		13,000 00
Amount of 5 per cent. Stock issued under the Order of 6th June, 1839, authorizing a Loan for the purchase of certain Estates on School street, in front of City Hall. *Payable in the financial year* 1859-60,		48,500 00
Balance of 5 per cent. Stock issued under the order of 28th April, 1840, authorizing a Loan to defray in part the Expenses of the financial year 1840-41. *Payable in the financial years,*		
1845-46	61,000	
1860-61	5,000	
		66,000 00
Amount of 5 per cent Stock issued under the order of 18th May, 1840, authorizing a Loan for the liquidation of certain portions of the City Debt which became due within that financial year, *Payable in the financial year* 1847-48,		88,000 00
Amount carried forward,		$1,151,700 00

Amount brought forward,	1,151,700 00
Amount of 4 per cent Stock issued under the order of 1st July, 1844, authorizing a Loan to an amount not exceeding $16,000, for the purpose of re-building the Franklin School House, destroyed by fire in June, 1844, which was after the regular appropriations for the year had been made,	11,566 62
N. B. Said Loan was made payable on the 1st day of May, 1845, *and was paid that day.*	
Total amount of the Debt as it stood on the 30th April, 1845, which was the close of the financial year,	$1,163,266 62

Office of the Auditor of Accounts,

5th June, 1845.

E. COPELAND, Jr.,

Auditor

The EXISTING CITY DEBT will be DUE, and PAYABLE as follows, viz: —

At the decease of a certain Individual,		20,000 00
In the financial year	1845–46 - -	72,566 62
	1846–47 - -	40,100 00
	1847–48 - -	88,000 00
	1849–50 - -	30,000 00
	1854–55 - -	859,100 00
	1859–60 - -	48,500 00
	1860–61 - -	5,000 00
		$1,163,266 62

The average ANNUAL INTEREST on the City Debt, as it now stands, amounts to $58,435 00, being about 5,02 per cent, viz :—

On	11,566 62	paid May 1, 1845,	
	30,000 00	at 4½ per cent. - -	1,350 00
	1,021,700 00	at 5 " " - -	51,085 00
	100,000 00	at 6 " " - -	6,000 00
	$1,163,266 62		$58,435 00

The amount of Debt which will be due and payable during THE NEXT FINANCIAL YEAR, is as follows :—

11,566 62	due 1st May, 1845,
61,000 00	due at various times between 1st May, 1845, and 19th January, 1846.
$72,566 62	

CITY DEBT.

The following Statement shows the amount of THE CITY DEBT PAID OFF during the past financial year, and the character of the same.

Part of the 4½ per cent. Stock, issued under the order of 2d Oct. 1826, to raise funds for the redemption of certain portions of the City Debt which bore a higher rate of interest,	35,000 00
Balance of the 5 per cent. Stock, issued for the erection of Faneuil Hall Market House, and the improvements connected therewith,	80,000 00
Part of the 5 per cent. Stock issued under the order of 19th May, 1834, authorizing a Loan for the purposes of that financial year,	7,000 00
Balance of the Stock issued under the order of 29th April, 1839, authorizing a Loan for the purposes of the financial year 1839–40,	67,500 00
Part of the Stock, issued under the order of 6th June, 1839, authorizing a Loan for the	
Amount carried forward,	$189,500 00

Amount brought forward, purchase of certain Estates on School street, in front of City Hall,		189,500 00 10,500 00
Balance of the 5½ per cent. Stock issued under the order of 1st July, 1839, authorizing a Loan for the erection of the Registry of Deeds and Probate Office,		16,500 00
Balance of the 5½ per cent. Stock, issued under the order of 15th July, 1839, authorizing a Loan for the erection of a Hospital for the House of Correction,		4,000 00
Balance of the 5½ per cent. Stock issued under the order of 21st Dec., 1839, authorizing a Loan to meet an additional appropriation for widening and extending streets,		5,600 00
Total amount of the City Debt which became due and payable in the financial year 1844–45,		$226,100 00
To which should be added the following items, being for City Stock taken up and cancelled, before it came due, by the "*Committee on the Reduction of the City Debt*," in conformity with the authority given them by the ordinance of 10th March, 1834.		
Part of the 5 per cent. Stock, issued under the order of 26th Jan. 1835, authorizing a Loan to redeem other portions of the City Debt, *due Jan.* 1, 1855, viz: 14,000 00 purchased at 3⅝ per cent. premium,	14,507 50	
3,000 00 at 4¾ per cent.	3,142 50	
1,000 00 at 5 " "	1,050 00	
Part of the 5 per cent. Stock issued under the order of 25th July, 1836, to meet additional appropriations for		
Amounts carried forward,	18,700 00	$226,100 00

Amounts brought forward,	18,700 00	226,100 00
widening and extending streets, *due* 1st *July*, 1846, $16,000 at a premium of $1\frac{5}{8}$ per cent is	16,260 00	
Part of the 5 per cent. Stock issued under the order of 28th April, 1840, authorizing a Loan to defray in part the Expenses of the financial year 1840-41, *due* 1*st May* 1845, *but paid* 21*st April*, 1845,	12,000 00	
		46,960 00
		$273,060 00

The amount of City Stock paid off and cancelled, during the year, was	272,100 00
Premium on the same,	960 00
Total as above,	$273,060 00

Which is in addition to the $1,900 00, due in the last financial year, but not called for till this year.

REDUCTION OF THE CITY DEBT.

By an Ordinance of the City Council, passed March 10th, 1834, the Mayor, the President of the Common Council, and the Chairman of the Committee of Finance, on the part of the Common Council, were constituted "The COMMITTEE ON THE REDUCTION OF THE CITY DEBT."

By the same ordinance it was further provided that all balances of Money remaining in the Treasury, at the end of any financial year ; all Receipts in money on account of the Sale of Real Estate, of any description then belonging, or which might thereafter belong to the City ; all Receipts in Money on account of the principal sum of any Bond or Note then owned, or which might thereafter be owned by the City, should be carried to the Credit of this Committee on the Books of the Accounting Officers ; and should be appropriated exclusively to the payment, or purchase, of the Capital of the City Debt, and should be drawn from the Treasury for that object, and *for no other purpose whatever.*

By an ordinance passed 28th Dec. 1840, it was further provided that, in every future year there should be appropriated from the Annual City Tax, for the payment, or the purchase of the principal of the City Debt, a sum that should not be less than three per cent. on the amount of the Debt, nor less than *Fifty Thousand Dollars.*

The annexed Statement of the account with the Committee on the Reduction of the Debt, for the past financial year, will show that, under the provisions of these two ordinances, the Public Debt has been very considerably diminished, and that, although their payments during the year have been nearly *Two hundred and Seventy-three Thousand Dollars*, there is yet a large and daily increasing Balance to their Credit.

By steadily pursuing this system of Reduction ; and adhering to the determination of not creating any new Debt, except for objects of indispensable necessity, we may soon hope to see our City relieved from any burthen on account of a Funded Debt.

DR. *The Committee on the Reduction of the City*

1845. April 30.	To amount of Two Certificates of City Stock, due in the last financial year, but not called for till this year, - -	1,900 00
"	To the whole amount of the City Debt which became due and payable this year, as per details on page 77, - -	226,100 00
"	To amount of City Debt taken up and cancelled before it became due, including the premium paid on the purchase of the same, as stated on page 78	46,960 00
"	To Balance of this account, being so much yet unexpended, and to the Credit of the Committee, - - - -	69,165 96
		$344,125 96

1845. April 30.	By Balance of the account with this Committee at the close of the Financial Year 1843–44, as per Report No. 32 page 70		106,611 36
	By Balance of Cash remaining in the Treasury at the close of that Financial Year, as per Report No. 32, page 61,	181,482 03	
	Less the above am't belonging to this Committee, and which formed part of said Balance,	106,611 36	
	Surplus of 1843-44 -		74,870 67
	By Amount received in Cash during this Financial Year, on account of Sales of the Public Lands, as per page 59,		58,307 00
	By Amount of Cash paid in on Bonds and Notes given for Lands, as per page 55,		54,336 93
	By Amount of the Annual appropriations for the Reduction of the City Debt, in conformity with the ordinance of 28th Dec. 1840, - - -		50,000 00
			$344,125 96
1845, April 30.	By Balance as above stated,		69,165 96

Carried over,

1845,	Cr.		
April 30.	By amount brought forward,		69,165 96
	By Surplus Balance in the Treasury, at the close of the Financial Year 1844-45, viz :—		
	Balance per statement on page 67,	130,872 56	
	Less—the above am't which belongs to this Committee, and which forms part of said Balance,	69,165 96	
	Surplus of 1844-45,		61,706 60
	Real Balance to the credit of this Committee 1st May, 1845,		$130,872 56

APPROPRIATIONS

FOR THE FINANCIAL YEAR

1845-46,

AND AN ESTIMATE OF

THE WAYS AND MEANS,

OF MEETING THE SAME.

By the Ordinance of 27th July, 1835, "*Establishing a system of accountability in the Expenditures of the City*," the Auditor of Accounts is required to lay before the City Council, in the month of February, annually, an estimate of the amount of Money necessary to be raised for the Expenditures of the then ensuing Financial Year, under their respective heads of Appropriation ; together with an Estimate of the Ways and Means of meeting the same.

Such Estimates were duly made, and laid before the City Council ; they were referred to a Joint Special Committee, by whom an order was reported, which finally passed the City Council, the substance of which order is as follows :

An Order relating to the SPECIFIC APPROPRIATIONS, *for the Financial Year* 1845-46.

It is hereby ordered by the City Council, that, to defray the Expenses of the City of Boston, and County of Suffolk, for the Financial Year, which will commence with the first day of May, 1845, and end with the last day of April, 1846, the following sums of money be, and the same are hereby appropriated, *that is to say:*

ANNUITIES. For the payment of three Annuities, viz:—one for the purchase of George's and Lovell's Islands, and the other two to persons having Life Estates in Lands taken for City Improvements,	625 00
ADVERTISING AND NEWSPAPERS. For six City Newspapers, and Advertising in the same, as per contracts,	900 00
BELLS AND CLOCKS. For Care and Repairs of the Public Clocks, and for Ringing six Bells, in different parts of the City, to denote the hours of the day,	1,000 00
BRIDGES. For repairs of the Bridges belonging to the City,	5,000 00
BURIAL GROUNDS. For Care and Improvement of the Burial Grounds; Funeral Cars; building New Tombs, and the usual contingent Expenses of that Department,	1,000 00
COUNTY OF SUFFOLK. For the usual Expenses of the County, such as Fees of Jurors and Witnesses, care and repairs of the County Buildings, &c.	50,000 00
COMMON, &c. For care and improvement of the Common and Malls; Fort Hill; Copp's Hill, and the Land in front of City Hall,	2,000 00
Amount carried forward,	$60,525 00

Amount brought forward,	$60,525 00
CITY DEBT. For the Annual Appropriation for the Reduction of the City Debt, as required by the ordinance of 28th December, 1840,	50,000 00
ENGINE HOUSES. For the erection, Rent, and Repairs of Engine and Hook and Ladder Houses,	1,000 00
EXTERNAL HEALTH DEPARTMENT. For the Expenses of the Quarantine Establishment at Rainsford Island, being for Repairs of the Buildings, Supplies and Repairs of the Quarantine Boats, &c.	700 00
FIRE DEPARTMENT. For the pay of Members; and the other contingent Expenses of the Fire Department, exclusive of Engine, and Hook and Ladder Houses, and the Salaries of the Chief Engineer and Clerk,	48,000 00
GAS FIXTURES. For new Gas Fixtures for extending the use of Gas in lighting the City,	2,000 00
HOUSE OF CORRECTION. For the Gross Expenditures of this Establishment, all its income being paid into the City Treasury,	21,000 00
HOUSES OF INDUSTRY AND REFORMATION. For the Gross Expenditures of these Establishments, all the income from the same being paid into the City Treasury,	31,000 00
INSTRUCTERS. For the Salaries of the Instructers and Teachers in the High and Latin, and Writing, and Grammar Schools, including the Teachers of Singing and Drawing,	96,500 00
Amount carried forward,	$310,725 00

Amount brought forward,	$310,725 00
INTERNAL HEALTH DEPARTMENT.	
For the usual Expenses of this Department, which includes the cost and keeping of the Horses, Construction and Repairs of the Carts, Waggons, &c. used in the Health and Paving Departments; and the general Expense of cleaning the Streets, removing the House Offal, abating nuisances, &c. &c.	36,000 00
INCIDENTAL EXPENSES.	
For Miscellaneous charges, and Incidental Expenses not properly chargeable to any other Appropriation,	18,000 00
INTEREST. For the payment of the Annual Interest on the City Debt, and on such Temporary Loans as may be required during the year,	62,000 00
LAMPS. For the usual Expenses of the Street Lamp Department, including the Salary of the Superintendent,	26,000 00
LUNATIC HOSPITAL.	
For the Gross Expenditures of this House, all its income being paid into the City Treasury,	13,000 00
MARKET HOUSE.	
For the Contingent Expenses of the Faneuil Hall Market House, such as Fuel, Lights, Watchman and Assistants, but exclusive of the Salary of the Clerk of the Market,	2,500 00
MILITARY BOUNTY.	
For the payment of the State Bounty to the Volunteer Militia, according to a law of the State, and to be refunded by the State,	4,500 00
NEW GRAMMAR SCHOOL HOUSES.	
For the erection of a New Grammar and	
Amount carried forward,	$472,725 00

Amounts brought forward,	$472,725 00
Writing School House on the City's Land, at the South part of the City,	18,000 00
For the purchase of Land, and the erection of a new Building as a substitute for the present Mayhew School House in Hawkins Street, *over and above the amount of money which may accrue from the sale of the Land and Building now used,*	20,000 00
OVERSEERS OF THE POOR.	
For the Gross Expenditures by this Board, all their income being paid into the City Treasury,	15,700 00
OLD CLAIMS.	
For the payment of such Bills and Accounts as have been audited and allowed in former years, but have not yet been called for,	3,000 00
PRIMARY SCHOOLS.	
For the usual Annual Expenses of the Primary Schools, including the Salaries of about 122 Teachers; Fuel; Rent and repairs of School Rooms, &c. &c.	42,600 00
PRIMARY SCHOOL HOUSES.	
For the purchase of Land, and the erection of new Primary School Houses,	15,000 0
PAVING AND REPAIRS OF STREETS.	
For the usual Expenses of Paving and Repairing of Streets, exclusive of the Salary of the Superintendent of Streets,	50,000 00
POLICE.	
For the usual Expenses of the Police Department, exclusive of the Salary of the City Marshal, and his two Deputies,	10,000 00
PUBLIC LANDS. For care and improve-	
Amount carried forward,	$647,025 00

Amount brought forward,	$647,025 00
ment of the Public Lands ; laying out new Streets, Sewers and Drains through the same, and preparing the lands for sale,	10,000 00
PUBLIC BUILDINGS.	
For repairs of the Buildings and Wharves, belonging to the City, with the exception of the School Houses and County Buildings,	4,000 00
PRINTING AND STATIONERY.	
For the Printing, Binding, and Stationery, required by the City Council, and in the Public Offices,	4,000 00
RESERVOIRS.	
For Building new Reservoirs for the use of the Fire Department, and repairing of old ones,	15,000 00
RESERVED FUND.	
For this amount to be reserved for such purposes as the City Council shall hereafter direct,	12,975 00
SCHOOLS.	
For Fuel, Repairs, and alterations of School Houses, and the other contingent Expenses of all the Schools except the Primary,	20,500 00
SCHOOL HOUSES. *See New Grammar School Houses, and Primary School Houses.*	
SEWERS AND DRAINS.	
For Building and Repairing Common Sewers, and for the care and repairs of the Wells and Pumps, belonging to the City,	10,000 00
SALARIES.	
For the payment of the Salaries of the City Officers ; the Judges and Clerks of the	
Amount carried forward,	$723,500 00

Amount brought forward,	$723,500 00
Police Court, and the Permanent Clerk hire for the Treasury, City Clerks, and Assessor's Offices,	38,000 00
STATE TAX. For the City's proportion of the State Tax of 75,000 dollars,	25,500 00
UNLIQUIDATED STREET CLAIMS. For the payment of outstanding claims against the City, for lands, &c. taken in *former years*, to widen streets,	20,000 00
WIDENING AND EXTENDING STREETS. For defraying the Expenses consequent on such widening and extending of Streets as shall be made and *settled for during this financial year*,	50,000 00
WATCH DEPARTMENT. For the payment of Watchmen, and the other expenses of the City Patrol Watch, including the Salary to the Captain,	50,000 00
WARD ROOM IN WARD 7. For the erection of a new Ward Room, and Watch House on the City's Land corner of Williams' Court and Court Square, (*part of the Rowe Estate*)	9,000 00
Total amount of Appropriations,	$916,000 00

And it is further ordered, That no excess in any of the respective appropriations aforesaid, shall be allowed by the Auditor, or paid by the Treasurer, unless authorised by the City Council. *Provided however*, That any sums of money which may be subscribed, or contributed by individuals, to promote the object of any of the foregoing appropriations, and which form no part of the estimated income of the City, shall be strictly applied according to the intention of the contributors, and shall be credited to the appropriation accordingly.

ESTIMATE

OF THE

WAYS AND MEANS

Of Meeting the Expenditures of the City of Boston, and County of Suffolk, for the Financial year

1845-46.

RENTS.		
Estimated amount to be received for Rents, from all the Public Buildings, &c.		52,000 00
COUNTY OF SUFFOLK.		
Estimated amounts receivable on account of the County, viz :—		
For Licenses, Fees, &c.	9,000 00	
From Commonwealth in re-imbursement of a portion of the County Expenses,	6,000 00	
		15,000 00
FEES, &c.		
Estimated amount to be received from the City Clerk, from the Hay-weighers; Superintendent of Burial Grounds ; for recording Mortgages, marriage publications, &c. &c.		4,000 00
Amount carried forward,		$71,000 00

Amount brought forward,	71,000 00
HOUSE OF CORRECTION.	
Amount which will probably be paid into the City Treasury by the Overseers of this Institution,	10,000 00
HOUSES OF INDUSTRY AND REFORMATION.	
Amount which will probably be realized from these Institutions, exclusive of their claims for the support of State paupers,	5,000 00
INTEREST.	
Estimated amount to be received on Bonds and Mortgages, Bank Deposites, &c.	8,000 00
INTERNAL HEALTH DEPARTMENT.	
Probable amount to be received from the sales of House Offal, Street dirt, &c.	6,000 00
MILITARY BOUNTY.	
Amount receivable from the State, as an offset for the payments provided for in the appropriation Bill,	4,500 00
OVERSEERS OF THE POOR.	
Estimated amount of payments into the Treasury, by this Board,	1,000 00
OUTSTANDING TAXES.	
Estimated amount of Taxes for the year 1844, and previous years; and other debts now due to the City, which will be realised during this Financial year,	10,000 00
PAVING DEPARTMENT.	
Estimated amount receivable from the sales of old Street Materials, and from assessments on individuals for making sidewalks, &c.	1,000 00
Amount carried forward,	$116,500 00

Amount brought forward,		$116,500 00
STATE PAUPERS.		
Estimated amount receivable from the State for the support of State Paupers, by our Institutions,		25,000 00
SEWERS AND DRAINS.		
Estimated amount receivable from assessments on individuals for their proportion of the cost of building new Sewers, and for the right to enter into old ones,		4,000 00
SCHOOL FUND.		
Estimated amount of the City's proportion of the income from the State School Fund,		2,500 00
UNCLAIMED DRAFTS.		
Estimated amount of Accounts, &c. which will have been audited, allowed, and drawn for by the auditor, against the appropriations of the year; but which will probably remain uncalled for at the close of the year, and will have to be provided for in the next year's Appropriation Bill,		3,000 00
Total estimated income, exclusive of Taxes,		$151,000 00
TAXES.		
Amount of Taxes ordered to be assessed for the service of the year,	790,000 00	
From which deduct for abatements and losses, and for the probable amount which will remain uncollected at the close of the year, say,	25,000 00	
We shall have a balance of		765,000 00
To which add the other income as stated above, viz:		151,000 00
And we have an amount equal to the estimated Expenditures, viz:		$916,000 00

AN ACCOUNT

OF THE

REAL AND PERSONAL PROPERTY

OF THE

CITY OF BOSTON,

ON THE FIRST DAY OF MAY, 1845.

THE COMMON, which contains about 45 acres.

FORT HILL.

LANDS.—The Lot now improved as the Public Garden, bounded by Charles Street, the empty Basin, the Western Avenue and Boylston Street continued,—containing about 1,000,000 feet.

——About 5,500,000 feet on each side of the Neck, exclusive of the Streets, and Public Squares, already laid out.

——About 16,442 feet, laid out in 12 house lots on the North side of a new Street 40 feet wide, leading from Pleasant street to the Empty Basin, as shown on "*Wadsworth's Plan of Lands west of Pleasant street*," dated 18th August, 1843.

——About 21,730 feet, laid out in 16 house lots, on the South side of said street.

N. B. The Providence Railroad Company claim a right of way to and from their Depot, over these Lots, on the ground that the Land was, long since, laid out as a Public Highway; consequently these 16 *Lots will not be offered for Sale, until the question about its being a Public Highway or not, is settled. A hearing of the parties has been had before the Supreme Court, who have the subject now under consideration.*

——About 22,730 feet, laid out in nine house lots on a 60 feet Street, (Boylston street continued) as per said Plan of Wadsworth.

——About 2,000 feet, formerly of the "*Rowe Estate*," on the corner of Court Square and Williams' Court, on which a new Ward Room, Watch House, &c. is now being erected.

——About 1,000 feet, on Causeway Street, with a Carpenter's shop on it, now rented for $120 per annum.

——About 600 feet, with an old house thereon, at the junction of Ann and Commercial streets, now leased at $150 per annum.

——About 8,940 feet of Flats west of Charles street, near the Rev. Mr. Sharpe's Meeting House.

——On Pleasant street, on which the State Laboratory stands.

WHARF.—The City Wharf at the East end of Faneuil Hall, now under a lease till 1st September, 1852, at $10,000 per annum. At the end of the Lease, the whole property, including the Stores, reverts to the City.

——Wharf on Commercial Street, adjoining Brown's Wharf, now used for landing Paving Stones, Gravel, &c. for City purposes.

N. B. Brown's Wharf was sold by the City in April last, for $51,300.

ISLANDS.—Deer Island and the Buildings on the same, now rented at $400 per annum.

——Rainsford, or Hospital Island, with the Buildings on the same, used as a Quarantine Establishment.

QUARANTINE BOAT, of 36 tons, with her two small boats, furniture, and other appurtenances for the Quarantine service.

CITY HALL on School street, with the Lands adjoining, and in front of the same.

COURT HOUSE, on Court Street, and furniture for the same.

COURT HOUSE, PRISONS, AND DWELLING HOUSE, on Leverett street, covering about 47,000 feet of Land.

REGISTRY OF DEEDS AND PROBATE OFFICE, on Court Square.

FANEUIL HALL MARKET HOUSE.

FANEUIL HALL, and the Stores under it.

OLD STATE HOUSE, head of State Street.

HOUSE OF CORRECTION.

HOUSES OF INDUSTRY AND REFORMATION.

LUNATIC HOSPITAL, with all the Out Houses, and appendages, to the above named Establishment at South Boston, being about 64 3-10 acres of Land, with their Furniture, three Fire Engines, Farming Utensils, Provisions and Stock on hand for Manufacturing, or other purposes; Horses and other Live Stock, &c. &c.

THE HIGH AND LATIN SCHOOL HOUSE in Bedford street.

EIGHTEEN GRAMMAR AND WRITING SCHOOL HOUSES, viz:

The Adams,	in Mason street.
Boylston,	on Fort Hill.
Bowdoin.	in Derne street.
Brimmer,	in Common street.
Eliot,	in North Bennett street.
Endicott,	in Cooper street.
Franklin,	in Washington street.
Phillips,	in Pinckney street.
Hancock,	in Hanover street,
Hawes,	at South Boston.
Johnson,	in Tremont street.
Lyman,	at East Boston.
Mayhew,	in Hawkins street.
Mather,	at South Boston.
Otis,	in Lancaster street.
Smith,	in Belknap street, *for colored children.*
Wells,	in Blossom street.
Winthrop,	in East street.

N. B. Twenty four Primary Schools are also accommodated in these Buildings.

PRIMARY SCHOOL HOUSES—Twenty of Brick, and eight of Wood, viz:—

Brick House,	on Friend street.
do.	corner May and West Cedar Street.
do.	Hanover Avenue, Hanover street.
do.	Bennet Avenue, North Bennet street.

Brick House on Newbern Place, Carver street.
do. Fort Hill.
do. Franklin street.
do. Tileston street.
do. Corner of Fleet and Moon street.
do. North Margin street.
do. Rear 7 Cross street.
do. South Margin street.
do. May street.
do. Spring street Place.
do. Mason street Court.
do. Essex street Court.
do. Charter street.
do. Blossom street.
do. South Boston.
do. East Boston.

Wooden Houses on Purchase street; Gibbs' Lane; Castle street; Dedham street; Northampton street; South street Court; Western Avenue, and Neck Land.

Engines.—Twenty fire Engines, of which fourteen are in active service on all occasions; three are manned by Volunteer Companies, and three are relief Engines.

Engine Houses.—Thirteen, located as follows, viz:—on Salem street; Commercial, Friend, Mason, Leverett, East, Suffolk, Washington and Tremont streets; one on Dock Square, one on Pemberton Hill, one at East Boston, and one at South Boston.

Three Engine Houses are hired; one is in a School House Building, and the three Relief Engines have no particular Houses assigned to them.

Hook and Ladder Houses.—One on the Johnson School House Lot in Tremont street.

Hooks.—Sixteen large Fire Hooks.

Ladders—Forty six of different sizes.

Hook and Ladder Carriages—Two.

Hose Carriages.—Twenty.

Hose.—About 10,700 feet of Suction and Leading Hose.

Buckets.—One hundred and forty eight Leather Fire Buckets.

Caps, Badges, Axes, Trumpets, Hose Screws, and all the other apparatus used by the Fire Department, is owned by the City.

RESERVOIRS.—Fifty eight, in different parts of the City, which contain from 300 to 400 hogsheads each, and are filled with rain water from the roofs of buildings, &c.

——Nine small ones, containing 60 to 70 hogsheads each, connected with and supplied by the aqueduct from Jamaica Pond.

N. B. At least twenty five more Reservoirs will be built the coming Financial year.

FIRE PLUGS.—Forty two Fire Plugs connected with the Aqueduct and other sources, in different parts of the City, so as to furnish a supply of Water to the Engines when required.

In addition to the above named sources of supply of Water to the Engines in cases of Fire, there is the Frog Pond on the Common; and arrangements are made with eleven wells and cisterns in various parts of the City, from which water can be taken by the suction Hose of the Engines.

WELLS AND PUMPS—Eight, belonging to the City.

CITY STABLES—With the Blacksmith, Wheelwright and Harness makers' Shops, connected with them, and the Land on which they stand, being about 27,634 feet bounded on Merrimac, Canal, Market and Friend streets.

N. B. All the Waggons, Carts, Harnesses, &c. used by the City, in the Paving and Internal Health Departments, are made and repaired at this Establishment.

HORSES—Sixty, with the Carts, Waggons, Harnesses, Stable Furniture, and other apparatus, and Stock on hand for the use of the Internal Health and Paving Departments.

HAY SCALES—One on Haymarket Square, and one corner Tremont and Newton streets.

POUNDS—Three, one on Tremont near Newton street, one at East Boston, and one at South Boston.

SCALES AND WEIGHTS—In public use at the Market House.

STANDARD WEIGHTS AND MEASURES—Two setts in charge of the City Treasurer.

COMMON SEWERS—About 92,000 feet laid by the City, and under its control.

LAMPS—Thirteen hundred and forty three Oil Lamps; and three hundred and thirty nine Gas Lamps, with the Ladders, Torches, Oil Cans, &c. used in lighting the Streets of the City.

Burial Grounds—Eight, viz: the *South*, on the Neck; the *Central*, on the Common; the *Granary and* the *Chapel*, on Tremont street; the *North*, and one adjoining it on Copp's Hill; one at *South Boston*, and one at *East Boston*.

Tombs—Eighty in the South Burial Ground, intended for sale.

One Infant's Tomb in the South Burial Ground.

Two Tombs in the North Burial Ground.

One in the Granary Burial Ground.

One in the Chapel Burial Ground.

One in the Central Burial Ground.

Funeral Cars and Harness—Six.

The Horses to draw the Funeral Cars, are furnished from the City Stables. So is also a Horse and Waggon to convey Prisoners, Paupers, &c. to and from the House of Correction, and the other Institutions at South Boston.

BONDS, NOTES, AND MORTGAGES

HELD BY THE CITY.

One Note and Mortgage transferred to the City Treasurer, by the Committee on the Extension of Faneuil Hall Market, due April 1, 1855,	5,000 00
Bonds and Mortgages received on account of sales of Neck Lands,	*171,575 43
Notes and Mortgages on account Brown's Wharf,	40,000 00
Bonds on account of Flats near the South Free Bridge,	5,793 40
Bonds on account of Lands west of Pleasant street,	37,159 06
	$259,527 89

* *Of this amount, about $12,000 must be considered as nominal; the Mortgages for which they were given having been foreclosed, and the Lands, in many cases, resold by the City.*

STATEMENT OF THE FRANKLIN FUND,

FOR THE

ASSISTANCE OF YOUNG MARRIED MECHANICS.

Estimated amount of Bonds in the hands of WILLIAM MINOT, Esq. the Treasurer,	1,014 00
Amount deposited with the Hospital Life Insurance Company,	35,461 15
Amount deposited in the Savings Bank,	255 00
	$36,730 15

FRANKLIN'S SCHOOL MEDAL FUND,

The Interest of which is invested in Silver Medals for distribution, at the Annual Examination of the Grammar and Writing Schools, among the most deserving Boys in those Schools.

One Certificate of City Five per cent. Stock, payable in the year 1860, for	$1,000 00

SMITH FUND.

Donation of ABIEL SMITH, ESQ. *to the Selectmen of the Town of Boston, for the time being—the Income of which is appropriated towards the support of a School for the Free Instruction of colored Children, in Reading, Writing, and Arithmetic, viz:*

20 Shares in the Newburyport Turnpike.
6 do. in the Rhode Island Bridge Company.
1 do, in Boston Theatre.
7 do. in Suffolk Bank, par value $700.
$4,000 in City of Boston, 5 per cent. Stock, payable in 1860.

LAWRENCE HIGH SCHOOL FUND.

Donation of Hon. Abbott Lawrence,	$2,000 00

This sum was deposited in the City Treasury, and an Annual Interest of five per cent. ordered to be paid on the same, to the sub-committee of the English High School, for the time being; to be invested by them in Prizes for the best performance in the various branches of Literature and Science taught in that Institution; and in such other Rewards to the Scholars in that School, as the sub-committee shall direct.

LATIN SCHOOL PRIZE FUND.

Donation of a number of Citizens of Boston, the Income of which is invested in Prizes for the most deserving Scholars in the Latin School.

One Certificate of City Five per cent. Stock, payable in 1860, for	$1,050 00

WEBB FUND.

Legacy of Rufus Webb, Esq., formerly a Writing Master, in one of our Public Schools, *the Interest of which is applied to the purchase of Books for the use of the Indigent Scholars belonging to the Writing Department of the* Franklin School.

One Certificate of City Five per Cent. Stock, payable in 1855, for	$1,000 00

POOR WIDOW'S FUND.

Donation of Mrs. Joanna Brooker, *and others, to the Selectmen of Boston, for the time being, the Interest of which is now paid over to the Aldermen, and by them applied, at their discretion, for the relief of* Poor Widows and Sick People.

One Note and Mortgage,	1,166 66
One Note and Mortgage,	1,503 39
	$2,670 05

CITY OF BOSTON.

In the Board of Aldermen, May 9, 1844.

Ordered, That Aldermen Wetmore and Robinson, together with such as the Common Council may join, be a Committee to examine, audit, and settle the Accounts of the City and County Treasurer, from the commencement of the present Financial Year, to the termination of the term of office of the present incumbent, by the election of his successor; and also to superintend the delivery over of the books, papers, and other muniments belonging to his office, to his successor therein.

Sent down for concurrence.

M. BRIMMER, *Mayor.*

In Common Council, May 9, 1844.

Concurred; and Messrs. Erving, Whiting and Bradlee are joined.

P. W. CHANDLER, *President.*

DR. *City of Boston, in Account Current, from May* 1, 1844,

1844. June 1.	To Cash paid Mayor's Drafts, on account of the following Appropriations, viz:		
	Auditor,	300 00	
	Bridges,	143 55	
	Burial Grounds,	7 50	
	Common, Malls, &c.	37 57	
	City Debt,	23,900 00	
	Fire Department,	2,003 36	
	House of Correction,	509 46	
	House of Industry,	1,176 29	
	Internal Health,	3,080 79	
	Incidental Expenses,	108 52	
	Lamps,	1,320 57	
	Lunatic Hospital,	340 52	
	Market,	388 43	
	New Latin and High School House,	600 00	
	Old Claims,	485 08	
	Public Buildings,	110 05	
	Public Lands,	357 00	
	Police,	505 69	
	Paving and repairs of Streets,	1,760 85	
	Primary Schools,	497 12	
	Primary School Houses,	5,709 07	
	Schools,	491 04	
	Salaries,	100 00	
	Sewers and Drains,	35 80	
	Unliquidated Claims for widening Streets,	1,228 43	
	Watch,	3,846 64	
	Widening Streets,	3,442 35	
			52,485 68
	Interest,		1,731 35
	Militia,		5 00
	Hay weighing,		62 50
			54,284 53
	Balance,		145,134 94
			$199,419 47

To June 1, 1844, *with Richard D. Harris, City Treasurer.* Cr.

June 1, 1844.		
By Balance of Account rendered May 1,		181,482 03
By Cash for Bonds, - - - -	4,808 69	
Burial Grounds, - -	110 00	
House of Correction, -	26 42	
House of Industry, -	398 16	
Interest, - - -	1,122 61	
New Latin and High School House, - - -	5,700 00	
Paving and repairs of Streets, - - -	205 57	
Public Lands, - -	292 50	
Rents, - - - -	867 99	
Sewers and Drains, -	93 74	
Taxes - - - -	4,248 57	
difference in Cash since 1832, not before entered.	63 19	
		17,937 44
		$199,419 47
June 1, 1844. By Balance, - - - - -		145,134 94

Boston, June 1, 1844.

Errors Excepted. RICHARD D. HARRIS, *City Treas'r.*

DR. *County of Suffolk, in Account Current from May 1, 1844, to June 1, 1844, with Richard D. Harris, County Treasurer.* CR.

1844, June 1.	To Cash paid Mayor's Drafts,	381 63	1844, June 1.	By Cash for Fines and cost in Municipal Court, from Sheriff,	813 26
	To Cash paid Witnesses, Jurors, &c.	3,461 19		By Cash for Fines and cost in Police Court, from Deputy Jailor,	158 83
	To Cash paid Balance Jail account,	920 23		By Balance,	3,790 96
		$4,763 05			$4,763 05
1844, June 1.	To Balance,	3,790 96			

Errors Excepted.

Boston, June 1, 1844.

RICHARD D. HARRIS, *County Treasurer.*

Dr. RICHARD D. HARRIS, *Treasurer of the City of Boston and County of Suffolk.* Cr.

1844, June 1.	To Balance, as per Account Current with the City of Boston, - -	$145,134 94	1844, June 1.	By Balance, as per Account Current with the County of Suffolk,	3,790 96
				Balance, Cash on hand, - -	141,343 98
					$145,134 94
1844, June 1.	To Balance, Cash on hand, - -	$141,343 98			

Errors Excepted.

Boston, June 1, 1844.

RICHARD D. HARRIS, *City and County Treasurer.*

CITY OF BOSTON.

June 5th, 1844.

The Committee appointed by the City Council, under an Order of May 9th, 1844, to audit and settle the Accounts of the City and County Treasurer, from the 30th April, to June 1st, 1844, have attended to that duty, and found the Accounts correctly stated, and that there are proper vouchers for the same. The Committee find that there has been received for account of the City of Boston, $17,937 44; and that there has been paid on the same account, $54,284 53; leaving a balance, (including the balance per settlement of May 1, 1844, of $181,482 03;) of $145,134 94.

The Committee also find that there has been received on account of the County of Suffolk, $972 09; and that there has been paid on the same account, $4,763 05, leaving a balance against the County of $3,790 96, and leaving a final balance in the Treasury, of $141,343 98. And the Committee also report that there appears to be a balance receivable on Bonds and Notes considered good, amounting to $115,640 51, according to Schedule marked A. hereto annexed, which amount will doubtless be paid as the instalments fall due, and that the balance receivable on delinquent Bonds and Notes, amounts to $99,613 30, according to Schedule marked B, the final payment of said deficit being mostly secured by mortgages; and that all the Bonds and Notes which have been placed in the hands of the City Treasurer, are duly accounted for, and also that the amount due for outstanding Taxes from the year 1822, to the present time, and in process of collection, is $210,059 68, being about two and a half per centum on the whole amount of Taxes assessed during that period, according to Schedule marked C.

THOMAS WETMORE,
S. W. ROBINSON,
E. S. ERVING, } *Committee.*
JAMES WHITING,
JOSEPH BRADLEE,

In Common Council, June 6, 1844.

Read and accepted. Sent up for concurrence.

P. W. CHANDLER, *President.*

In the Board of Aldermen, June 10, 1844.

Read and concurred.

M. BRIMMER, *Mayor.*

DR. *City of Boston in Account Current, from May* 31, 1844,

1845, May 1.	To Cash paid Mayor's Drafts as follows, viz:		
	Auditor, - - - - - -	1,200	00
	Advertising, - - - - -	900	00
	Annuities, - - - - - -	525	00
	Burial Grounds, - - - - -	741	50
	Bells and Clocks, - - - -	717	56
	Bridges, - - - - - -	2,343	58
	Common, Malls, &c. - - - -	981	64
	City Debt, - - - - - -	204,100	00
	Committee on Reduction of City Debt, -	46,960	00
	External Health, - - - - -	625	80
	Engine Houses, - - - - -	645	42
	Fire Department, - - - -	39,570	42
	Gas Fixtures, - - - - -	639	98
	House of Correction, - - - -	18,043	69
	House of Industry, - - - -	27,974	93
	Internal Health, - - - - -	30,100	42
	Incidental Expenses, - - - -	16,629	88
	Instructers, - - - - -	89,005	11
	Lamps, - - - - -	23,428	37
	Lunatic Hospital, - - - -	11,718	95
	Market, - - - - - -	2,115	86
	New Grammar School House, - -	29,473	32
	New Latin and High School House, -	7,510	46
	New Franklin School House, - -	11,566	62
	Overseers of Poor, - - - -	15,000	00
	Old Claims, - - - - - -	308	68
	Old High School House, - - -	2,945	59
	Primary Schools, - - - - -	39,700	84
	Public Buildings, - - - -	3,219	08
	Police, - - - - - -	9,256	48
	Printing and Stationery, - - -	3,788	62
	Public Lands, - - - - -	5,813	34
	Primary School Houses, - - -	6,793	20
	Paving and Repairs of Streets, - -	36,971	14
	Reservoirs, - - - - - -	2,050	34
	Amount carried forward,	$693,365	82

1845, May 1.	By Cash on hand, June 1, 1844, - - - -		141,343 98
	Auditor, - - - -		1,500 00
	Alien Passengers, from Insp'r.		5,764 02
	Bonds and Notes, - -		49,528 24
	Burial Grounds, from Sup.	1,397 55	
	for Tombs,	247 50	
	from Auditor,	101 75	
			1,746 80
	City Debt, per order of City Council, July 1, 1844, -		11,566 62
	Fire Department, from Eng'r	82 00	
	from Auditor,	3 00	
			85 00
	House Correction, Overseers,	10,739 39	
	Auditor,	6 31	
			10,745 70
	House of Industry, Directors,	5,073 36	
	Com'wlth,	10,165 68	
			15,239 04
	Interest, from sundry acct's,		9,170 15
	Internal Health, Auditor,		7,795 96
	Incidental Expenses, Auditor,		254 14
	Instructers, Auditor, - -		5 53
	Lawrence Fund, donation from Hon. Abbott Lawrence,		2,000 00
	Lamps, Auditor, - -		23 50
	Lunatic Hospital, Comm'wlth,		9,384 28
	License Fees, &c. City Clerk,		1,899 50
	Militia, Commonwealth,		4,267 50
	New Latin and H. S. House, from Auditor, - - -		100 00
	New Grammar School House, Land sold, - - - -		3,681 54
	Overseers of Poor, Overseers,	1,421 64	
	Comm'wlth,	5,923 17	
			7,344 81
	Amount carried forward,		$283,446 31

DR. *City of Boston in Account Current, from May* 31, 1844,

1845, May 1.	*To amount brought forward,*	693,365 82	
	Reserved Fund, - -	665 00	
	Solitary Rooms Lunatic Hospital, - - - -	5,651 04	
	Schools, - - -	20,627 42	
	Salaries., - - -	37,076 62	
	Sewers and Drains, -	8,739 02	
	Unliquidated Claims for Widening Streets, - -	5,538 75	
	Watch, - - -	44,058 75	
	Widening Streets, -	46,899 41	
			862,621 83
	Firemen, - - -		3 00
	Hay Weighing, - -		187 50
	Interest, - - -		69,244 06
	Militia, - - - -		4,193 50
	State Tax, - - -		25,488 75
	Temporary Loan, on order of City Council, June 20th, 1844, - - -		205,604 86
	Balance, - - -		157,829 15
			1,325,172 65

1845, May 1.	*By Amount brought forward,*		$283,446 31
	Primary Schools, from Auditor,		155 83
	Public Buildings, from Sup.		170 00
	Police, from Auditor,		32 00
	Paving and repairs of Streets, repairs of sidewalks,	661 37	
	from Auditor,	217 21	
			878 58
	Public Lands, Lands sold,		58,014 50
	Primary S. Houses, Auditor,		44 50
	Rents, Sundry persons,		53,001 74
	Reservoirs, Auditor,		26 46
	Sewers, &c. sundry persons,	3,273 65	
	Superintendent,	1,649 00	
			4,922 65
	Taxes,		717,790 00
	Temporary Loan,		205,604 86
	Weighing fees, Hay weigher,		1,085 22
			$1,325,172 65

Errors Excepted,
BOSTON, MAY 1, 1845.
JAMES C. DUNN, *City Treasurer.*

DR. *County of Suffolk in Account Current from May 31, 1844, to May 1, 1845, with* James C. Dunn, *County Treasurer.* CR.

1845, May 1.	To Cash paid Mayor's Drafts, - -	5,681 56	1845, May 1.	By Cash received for rent from Deputy Jailor, - - - - -	53 76
	Witnesses, Jurors, &c.	41,094 02		fines, and costs in Municipal Court, from Sheriff, - - -	6,180 49
	Board of Accounts,	216 00		fines and costs in Municipal and Police Courts, from Deputy Jailor,	964 56
	balance Jail Accounts,	3,656 53		fines, costs, &c., in Police Court, from Clerk, - - - -	5,142 54
				fees in Justices Court, - -	1,849 96
				fine in Court Common Pleas, -	30 00
				half surplus fees from Clerk of the Municipal Court, - - -	1,730 61
				half surplus fees from Clerk of Supreme Judicial and Court of Common Pleas, - - - -	870 85
				Balance of County Accounts from from Commonwealth, - -	6,868 75
		$50,648 11		Balance, - - - - - -	26,956 59
					$50,648 11
1845, May 1.	To Balance, - - - - -	26,956 59			

Errors Excepted. Boston, May 1, 1845. JAMES C. DUNN, *County Treas'r.*

DR. J. C. DUNN, *Treasurer of the City of Boston, and County of Suffolk.* CR.

1845, May 1.	To Balance, as per Account Current with the City of Boston, - -	157,829 15	1845, May 1.	By Balance, as per Account Current with the County of Suffolk,	26,956 59
				By Balance, Cash on hand,	130,872 56
		$157,829 15			$157,829 15
1845, May 1.	To Balance, - - - - -	130,872 56			

Errors Excepted.

BOSTON, MAY 1, 1845.

JAMES C. DUNN, *City and County Treasurer.*

CITY OF BOSTON.

In City Council, May 22d, 1845.

The Standing Committee on the Treasury Department, in pursuance of the duties assigned them, ask leave to Report to the City Council, that they have examined the Accounts of JAMES C. DUNN, Esq., City and County Treasurer, from the time he entered upon the duties of his office, in June, 1844, to the thirtieth day of April last, the close of the last financial year.

The Committee find, that the City and County Treasurer has received, within the term above specified, on account of

the City of Boston, the sum of		$1,325,172 65
On account of the County of Suffolk, the sum of . - -		23,691 52
Making the aggregate receipts, on account of the City and County, -		1,348,864 17
Within the same period, there has been paid out from the Treasury, on account of the City of Boston, the sum of - -	1,167,343 50	
On account of County of Suffolk, the sum of	50,648 11	
Making the aggregate payments on account of the City and County,		1,217,991 61
And leaving a balance, which was the amount of Money actually on hand, on the 1st of May last, amounting to		$130,872 56

The Committee find that, on the morning of the first of May, instant, there stood at the credit of James C. Dunn, City Treasurer, on deposite in the Merchants' Bank, in addition to the amount of several checks which had been drawn by the Treasurer, but not presented for payment, the sum of - - - - - - - -	129,682 92
And that there was on hand, in money, in the City Treasurer's Office, the sum of - - - - - - - -	1,189 64
Which two sums, together, make the actual balance of his Accounts, and constitute the balance of money on hand, at the close of the last financial year—say, - - - -	$130,872 56

The Committee further report, that they find the Accounts of the City and County Treasurer have been accurately kept, and that they are correctly vouched.

All of which is respectfully submitted.

WILLIAM POPE,
BENSON LEAVITT,
WILLIAM HAYDEN,
DANIEL DENNY,
} *Committee on the Treasury Department.*

In Common Council, May 22d, 1845.

Read and accepted Sent up for concurrence.

P. W. CHANDLER, *President.*

In the Board of Aldermen, May 22d, 1845,

Read and concurred.

BENSON LEAVITT, *Chairman, pro tem.*

Dr. City of Boston *in Account Current, from April* 30, 1844,

1845,				
May 1.	To Cash paid Mayor's Drafts as follows, viz:			
	Auditor, - - - -	1	1,500	00
	Advertising, - - - -	2	900	00
	Annuities, - - - -	3	525	00
	Burial Grounds, - - -	4	749	00
	Bells and Clocks, - - -	5	717	56
	Bridges, - - - - -	6	2,487	13
	Common, Malls, &c. - -	7	1,019	21
	City Debt, - - - -	8	228,000	00
	Committee on Reduction of City Debt, - - - -	9	46,960	00
	External Health, - - -	10	625	80
	Engine Houses, - - -	11	645	42
	Fire Department, - - -	12	41,573	78
	Gas Fixtures, - - -	13	639	98
	House of Correction, - .	14	18,553	15
	House of Industry, - - -	15	29,151	22
	Internal Health, - - -	16	33,181	21
	Incidental Expenses, - -	17	16,738	40
	Instructers, - - - -	18	89,005	11
	Lamps, - - - - -	19	24,748	94
	Lunatic Hospital, - - -	20	12,059	47
	Market, - - - - -	21	2,504	29
	New Grammar School House,	22	29,473	32
	New Latin and High School House,	23	8,110	46
	New Franklin School House,	24	11,566	62
	Old High School House, -	25	2,945	59
	Overseers of Poor, - -	26	15,000	00
	Old Claims, - - - -	27	793	76
	Primary Schools, - - -	28	40,197	96
	Public Buildings, - - -	29	3,329	13
	Police, - - - - -	30	9,762	17
	Printing and Stationery, -	31	3,788	62
	Public Lands, - - -	32	6,170	34
	Primary School Houses, -	33	12,502	27
	Paving and Repairs of Streets,	34	38,731	99
	Amount carried forward,		$734,656	90

To May 1, 1845, *with the* City Treasurer. Cr.

1845, May 1.	By Cash on hand, May 1, 1844,			181,482 03
	Auditor,	50		1,500 00
	Alien Passengers, from Inspector,	51		5,764 02
	Bonds and Notes,	52		54,336 93
	Burial Grounds,			
	from Sup't,		1,397 55	
	for Tombs, sold,		357 50	
	from Auditor,		101 75	
		53		1,856 80
	City Debt, per order City Council, July 1, 1844,	54		11,566 62
	Fire Department,			
	from Engineer,		82 00	
	from Auditor,		3 00	
		55		85 00
	House of Correction,			
	from Overseers,		10,765 81	
	from Auditor,		6 31	
		56		10,772 12
	House of Industry,			
	from Directors,		5,471 52	
	from Commonwealth,		10,165 68	
		57		15,637 20
	Interest, from sundry from sundry acc'ts,	58		10,292 76
	Internal Health, from Auditor,	59		7,795 96
	Incidental Expenses, from Auditor,	60		254 14
	Instructers, Auditor,	61		5 53
	Lawrence Fund, donation from Hon. Abbott Lawrence,	62		2,000 00
	Amount carried forward,			$303,349 11

Dr. CITY OF BOSTON *in Account Current, from April* 30, 1844,

1845,				
May 1.	*To am't bro't forward,*			734,656 90
	Reserved Fund,	35	665 00	
	Reservoirs,	36	2,050 34	
	Solitary Rooms, Lunatic Hospital,	37	5,651 04	
	Schools,	38	21,118 46	
	Salaries,	39	37,176 62	
	Sewers and Drains,	40	8,774 82	
	Unliquidated Claims for Widening St's,	41	6,767 18	
	Watch,	42	47,905 39	
	Widening Streets,	43	50,341 76	
				915,107 51
	Firemen,	44	3 00	
	Hay Weighing,	45	250 00	
	Interest,	46	70,975 41	
	Militia,	47	4,198 50	
	State Tax,	48	25,488 75	
	Temporary Loan, on order of City Council, June 20, 1844,	49	205,604 86	
				306,520 52
	Balance,			161,620 11
				$1,383,248 14

To May 1, 1845, *with the* CITY TREASURER. CR.

1845,				
May 1.	*By Am't bro't forward,*			303,349 11
	Lamps, Auditor,	63		23 50
	Lun Hos'pl.Com'wlth,	64		9,384 28
	License Fees, &c.			
	City Clerk, -	65		1,899 50
	Militia, Comm'wlth,	66		4,267 50
	New L.and H.S.House			
	from Auditor,		100 00	
	from Hort. Society,		5,700 00	
		67		5,800 00
	New Grammar School			3,681 54
	House, Land sold,	25		
	O. of Poor, Overseers,		1,421 64	
	Commonwealth,		5,923 17	
		68		7,344 81
	P. Schools, Auditor,	69		155 83
	Pub. Buildings, Sup't.	70		170 00
	Police, from Auditor,	71		32 00
	Paving and repairs of			
	Streets, -			
	Sidewalks, -		866 94	
	from Auditor,		217 21	
		72		1,084 15
	Public Lands,			
	Lands sold, -	73		58,307 00
	P. S. Houses, Auditor,	74		44 50
	Rents, sundry persons,	75		53,869 73
	Reservoirs, Auditor,	76		26 46
	Sewers, &c. sundries,		3,367 39	
	Superintendent,		1,649 00	
		77		
	Taxes, - -	78		5,016 39
	Temporary Loan,	79		722,038 57
	Weighing fees,			205,604 86
	from Hay weigher,	80		1,085 22
	Difference in Cash			
	while R. D. Harris.			
	Esq. was Treas'r.	81		63 19
				$1,383,248 14
	Balance, - -			161,620 11

Errors Excepted, BOSTON, MAY 1, 1845.

JAMES C. DUNN, *City Treasurer.*

DR. COUNTY OF SUFFOLK, *in Account Current from April* 30, 1844, *to May* 1, 1845, *with the* COUNTY TREASURER. CR.

1845, May 1.	To Cash paid Mayor's Drafts,	6,063 19	1845, May 1.	By Cash received for rent from Deputy Jailor,	53 76
	Witnesses, Jurors, &c.	44,555 21		Fines, and costs in Municipal Court, from Sheriff,	6,993 75
	Board of Accounts,	216 00		Fines and costs in Municipal and Police Courts, from Deputy Jailor,	1,123 39
	Balance Jail Accounts,	4,576 76		Fines, costs, &c., in Police Court, from Clerk,	5,142 54
				Fees in Justices Court,	1,849 96
				Fine in Court Common Pleas,	30 00
				Half surplus fees from Clerk of the Municipal Court,	1,730 61
				Half surplus fees from Clerk of Supreme Judicial and Court of Common Pleas,	870 85
				Balance of County Accounts from from Commonwealth,	6,868 75
		$55,411 16		Balance,	30,747 55
					$55,411 16
1845, May 1.	To Balance,	30,747 55			

Errors Excepted. BOSTON, MAY 1, 1845. JAMES C. DUNN, *Couuty Treas'r.*

DR. TREASURER *of the* CITY OF BOSTON *and* COUNTY OF SUFFOLK. CR.

1845, May 1	To Balance, as per Account Current with the City of Boston, - -	161,620 11	1845, May 1.	By Balance, as per Account Current with the County of Suffolk, -	30,747 55
				Balance, Cash on hand, -	130,872 56
		$161,620 11			$161,620 11
1845, May 1.	To Balance, - - - -	130,872 56			

Errors Excepted.

BOSTON, MAY 1, 1845.

JAMES C. DUNN, *City and County Treasurer.*

OLD REPORTS.

Gentlemen having in their possession copies of the Financial Reports of the Board of Selectmen, or of the Committees of Finance, of the Town of Boston, *of a date prior to* 1818, will confer a favor on the City by handing them to the Auditor of Accounts, City Hall.

It is desirable to obtain, and preserve for the use of the City, one or more *complete sets* of the Printed Annual Reports of Receipts and Expenditures, from the commencement of the present series, which was in the year 1812.

Several numbers of these early Reports are yet wanting, to enable the Auditor to make up a perfect set for the use of the City: there is no doubt that many of them exist, and that some of them are in the hands of gentlemen who would be very willing to part with them *for the desired object;*—the Auditor therefore hopes that this notice will ere long, enable him to complete one or more sets.

A few copies of No. 24 and 25, (1835 to 1837) would enable the Auditor to supply, to such gentlemen as might desire them for preservation, a complete series of the Printed Reports for the last 15 or 20 years.

To those gentlemen who have heretofore furnished the Auditor with desirable numbers of these old Reports, he takes this opportunity to tender his thanks.

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City Document—No. 23.

CITY OF BOSTON.

JAIL.

In Common Council, June 26, 1845.

Read, and ordered to be printed.

Attest, W. P. Greeg, *Clerk C. C.*

The Committee on Public Buildings, by an Order of the City Council, passed May 26, 1845, were directed to obtain plans and estimates for a Jail and a Jailor's House, to be located on the City's Land at South Boston.

The Committee report a plan of a Jail, drawn by G. J. F. Bryant, and a plan of a House for the Jailor, drawn by Richard Bond. The Committee recommend that the Jail, when built, should be located at the Southeasterly corner of the City's Lands, and they herewith report a plan of the same, together with an estimate of the cost of construction and materials, to be fifty-five thousand dollars, and they offer the accompanying order.

For the Committee,

THOMAS A. DAVIS, *Chairman.*

CITY OF BOSTON.

In Common Council, Boston, June 26, 1845.

Ordered, That the City Treasurer be and he is hereby authorized to borrow, under the direction of the Joint Committee of Finance, the sum of fifty-five thousand dollars, payable at such time as the Committee may direct, and the same be appropriated for the erection of a Jail and a Jailor's House on the City's Land, at South Boston.

THE
TRUE GRANDEUR OF NATIONS:

AN

ORATION

DELIVERED BEFORE THE AUTHORITIES

OF

THE CITY OF BOSTON,

JULY 4, 1845,

BY CHARLES SUMNER.

> O! yet a nobler task awaits thy hand!
> For what can War but endless War still breed?
> Till Truth and Right from Violence be freed.
>
> MILTON, SONNET TO FAIRFAX.

BOSTON:
1845.
J. H. EASTBURN, CITY PRINTER.

CERTAINLY, if all who look upon themselves as men, not so much from the shape of their bodies, as because they are endowed with reason, would listen awhile unto Christ's wholesome and peaceable decrees, and not, puffed up with arrogance and conceit, rather believe their owne opinions than his admonitions; the whole world long ago, (turning the use of iron into milder workes) should have lived in most quiet tranquillity, and have met together in a firme and indissoluble League of most safe Concord.—ARNOBIUS, ADVERSUS GENTES, LIB. 1. p. 6.

All high titles come hitherto from fighting. Your Herzog, (Duke, Dux) is leader of armies; your Earl (Jarl) is strong man; Marshal, cavalry horse-shoer. A millenium, or reign of Peace, having been prophesied, and becoming daily more and more indubitable, may it not be apprehended that such Fighting titles, [also General, Admiral, Colonel, Captain] will cease to be palatable, and new and higher need to be devised?—CARLYLE'S SARTOR RESARTUS.

CITY OF BOSTON.

In the Board of Aldermen, July 7, 1845.

Resolved, That the thanks of this Board be presented in behalf of the City Council, to Charles Sumner, Esq., for the able and eloquent Oration, delivered by him, before the Municipal Authorities of the City, at the recent celebration of the anniversary of the Declaration of the Independence of the United States;—and that he be requested to furnish a copy for the press.

Attest, S. F. McCLEARY, *City Clerk.*

Boston, July 10, 1845.

Sir:

I am grateful to my fellow-citizens for listening with such indulgence to sentiments which, I was sorry to believe, would not be in harmony with the opinions of all; and I now place at your disposal a copy of the Oration, much of which was necessarily omitted in the delivery, on account of its length.

In undertaking to present my views of *The True Grandeur of Nations*, I thought that I was most fitly fulfilling the trust that had been reposed in me, when I was selected as the voice of the City of Boston on the National Anniversary. Believing that, in the present state of Christian society, all war and all preparation for war, are irrational, unnecessary and inconsistent with that true greatness at which our Republic should aim, I deemed it my duty on that occasion to uphold that truth. I was also anxious that our country should seek the true glory, and what is higher than glory, the great good, of taking the lead in the disarming of the nations.

Allow me to add, that I wish to be understood as restraining my opinions precisely within the limits which I have assigned them in these pages; and, particularly, to disclaim the suggestion which has been volunteered with regard to them, that Force may not be employed, under the sanction of Justice, in the conservation of the laws and of domestic quiet. All good men must unite in condemning, as barbarous and unchristian, the resort to external Force; in other words to the arbitrament of War; to *International* Lynch Law; or the great *Trial by Battle*, to determine justice between nations.

I am, sir, your obedient servant,

CHARLES SUMNER.

Thomas A. Davis, Esq.,
Mayor, &c. &c.

ORATION.

It is in obedience to an uninterrupted usage in our community that, on this Sabbath of the Nation, we have all put aside the common cares of life and seized a respite from the never-ending toils of labor, to meet in gladness and congratulation, mindful of the blessings transmitted from the Past, mindful also, I trust, of the duties to the Present and the Future. May he who now addresses you be enabled so to direct your minds, that you shall not seem to have lost a day!

All hearts first turn to the Fathers of the Republic. Their venerable forms rise before us, and we seem to behold them, in the procession of successive generations. They come from the frozen rock of Plymouth, from the wasted bands of Raleigh, from the Heavenly companionship of William Penn, from the anxious councils of the Revolution, and from all those fields of sacrifice, on which, in obedience to the Spirit of their Age, they sealed their devotion to duty with their blood. They seem to speak to us, their children; "Cease to vaunt yourselves of what you do, and of what has been done for you. Learn to walk humbly, and to think meekly of yourselves. Cultivate habits of self-sacrifice and of devotion to duty. May our words be always in your minds, never aim at aught which is not RIGHT, persuaded that without this, every possession and all knowledge will become an evil and a shame. Strive to increase the inheritance which we have bequeathed; know, that, if we excel you in virtue, such a victory will be to us a mortification, while defeat will bring happiness. It is in this way, that you may conquer us. Nothing is more shameful for a man, than to found his title to esteem, not on his own merits, but on the fame of his ancestors. The glory of the Fathers is doubtless to their children a most precious treasure; but to enjoy it without transmitting it to the next generation, and without adding to it yourselves, this is the height of imbecility. Following these counsels, when your days shall be finished on earth, you will come to join us, and we shall receive you as friends receive friends; but if you neglect our words, expect no happy greeting then from us."*

Honor to the memory of our Fathers! May the turf lie gently on their sacred graves! But let us not in words only, but in deeds also, testify our reverence for their name. Let us imitate what in them was lofty, pure and good; let us from them learn to bear hardship and privation. Let us, who now reap in strength what they sowed in weakness, study to enhance the inheritance we have received. To do this, we must not fold our hands in slumber, nor abide content with the Past. To each generation is committed its peculiar task; nor does the heart, which responds to the call of duty, find rest except in the world to come. Be ours, the task which, in the order of Providence, has been imposed on us!

On this Anniversary it becomes us, as patriots and citizens, to turn our thoughts inward, as the good man dedicates his birth-day, to the consideration of his character and the mode in which its vices may be corrected and its virtues strengthened. Avoiding, then, all exultation in the prosperity that has enriched our land, and in the extending influence of the blessings of freedom, it will be proper to consider what we can do to elevate our character, to add to the happiness of all, and to attain to that righteousness which exalteth a nation. In this spirit, I propose to inquire *what, in our age, are the true objects of national ambition—what is truly national glory—national honor*—WHAT IS THE TRUE GRANDEUR OF NATIONS.

---

* The chief of this is borrowed almost literally from the words attributed by Plato to the Fathers of Athens, in the beautiful Funeral Discourse of the Menexenus.

I hope to rescue these terms, so powerful over the minds of men, from the mistaken objects to which they are applied, from deeds of war and the extension of empire, that henceforward they may be attached only to acts of Justice and Humanity.

The subject will raise us to the contemplation of things that are not temporary or local in their character; but which belong to all ages and all countries; which are as lofty as Truth, as universal as Humanity. But it derives a peculiar interest, at this moment, from transactions in which our country has become involved. On the one side, by an act of unjust legislation, extending our power over Texas, we have endangered Peace with Mexico; while, on the other by a presumptuous assertion of a disputed claim to a worthless territory beyond the Rocky Mountains, we have kindled anew on the hearth of our Mother Country, the smothered fires of hostile strife. Mexico and England both aver the determination to vindicate what is called the national *honor;* and the dread arbitrament of war is calmly contemplated by our Government, provided it cannot obtain what is called an *honorable* peace.*

Far be from our country and our age the sin and shame of contests hateful in the sight of God and all good men, having their origin in no righteous though mistaken sentiment, in no true love of country, in no generous thirst for fame, that last infirmity of noble minds, but springing in both cases from an ignorant and ignoble passion for new territories; strengthened, in one case, by an unnatural desire, in this land of boasted freedom, to fasten by new links the chains which promise soon to fall from the limbs of the unhappy slave! In such contests, God has no attribute which can join with us. Who believes that the *national honor* will be promoted by a war with Mexico or England? What just man would sacrifice a single human life, to bring under our rule both Texas and Oregon? It was an ancient Roman, touched, perhaps, by a transient gleam of Christian truth, who said, when he turned aside from a career of Asiatic conquest, that he would rather save the life of a single citizen than become master of all the dominions of Mithridates.

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* The official paper at Washington has said; "We presume the negotiation is really resumed, and will be prosecuted in this city, and not in London, to some definite conclusion—peaceably we should hope—*but we wish for no peace but an honorable peace.*"

A war with Mexico would be mean and cowardly; but with England it would be at least bold, though parricidal. The heart sickens at the murderous attack upon an enemy, distracted by civil feuds, weak at home, impotent abroad; but it recoils in horror from the deadly shock between children of a common ancestry, speaking the same language, soothed in infancy by the same words of love and tenderness, and hardened into vigorous manhood under the bracing influence of institutions drawn from the same ancient founts of freedom. *Curam acuebat, quod adversus Latinos bellandum erat, linguâ moribus, armorum genere, institutis ante omnia militaribus congruentes; milites militibus, centurionibus centuriones, tribuni tribunis compares, collegæque, iisdem præsidïs, sæpe iisdem manipulis permixti fuerant.**

IN OUR AGE THERE CAN BE NO PEACE THAT IS NOT HONORABLE; THERE CAN BE NO WAR THAT IS NOT DISHONORABLE.† The true honor of a nation is to be found only in deeds of justice and in the happiness of its people, all of which are inconsistent with war. In the clear eye of Christian judgment vain are its victories; infamous are its spoils. He is the true benefactor and alone worthy of honor who brings comfort where before was wretchedness; who dries the tear of sorrow; who pours oil into the wounds of the unfortunate; who feeds the hungry and clothes the naked; who unlooses the fetters of the slave; who does justice; who enlightens the ignorant; who enlivens and exalts, by his virtuous genius, in art, in literature, in science, the hours of life; who, by words or actions, inspires a love for God and for man. This is the Christian hero; this is the man of honor in a Christian land. He is no benefactor, nor deserving of honor, whatever may be his worldly renown, whose life is passed in acts of force; who renounces the great law of Christian brotherhood; whose vocation is blood; who triumphs in battle over his fellow-men. Well may old Sir Thomas Browne exclaim, "the world does not know its greatest men;" for thus far it has chiefly discerned the violent brood of battle, the armed men springing up from the dragon's teeth sown by Hate, and cared little for the truly good men, children of Love, Cromwells guiltless of their country's blood, whose steps on earth have been as noiseless as an angel's wing.

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* T. Liv. VIII. c. 6.

† It will be observed that this proposition is restrained to *our age*. It is not intended to express any opinion with regard to the Past, and, particularly, with regard to the War of the Revolution. Wars are the natural consequence of the predominance of the *animal* part of our nature; but the day has now arrived in which we should *declare Independence* of the bestial propensities, and recognize the supremacy of the moral and intellectual faculties. The question of the justifiableness of the War of the Revolution has been handled with great strength and freedom by Hon. William Jay in his admirable publication, Peace and War, and in a Sermon by Rev. Mr. Judd. For some considerations bearing on this question, and another occurring in these pages, I beg leave to refer to a letter printed in the Appendix, Note A.

It is not to be disguised that these views differ from the generally received opinions of the world down to this day. The voice of man has been given mostly to the praise of military chieftains, and the honors of victory have been chaunted even by the lips of woman. The mother, while rocking her infant on her knees, has stamped on his tender mind, at that age more impressible than wax, the images of war; she has nursed his slumbers with its melodies; she has pleased his waking hours with its stories; and selected for his playthings the plume and the sword. The child is father to the man; and who can weigh the influence of these early impressions on the opinions of later years? The mind which trains the child is like the hand, which commands the end of a long lever; a gentle effort at that time suffices to heave the enormous weight of succeeding years. As the child advances to youth he is fed, like Achilles, not only on honey and milk, but on bear's flesh and lion's marrow. He draws the nutriment of his soul from a literature, whose beautiful fields have been moistened by human blood. Fain would I offer my tribute to the Father of Poetry, standing, with harp of immortal melody, on the misty mountain top of distant antiquity; to all those stories of courage and sacrifice which emblazon the annals of Greece and Rome; to the fulminations of Demosthenes and the splendors of Tully; to the sweet verse of Virgil and the poetic prose of Livy. Fain would I offer my tribute to the new literature, which shot up in modern times as a vigorous forest from the burnt site of ancient woods; to the passionate song of the Troubadour of France, and the Minnesinger of Germany; to the thrilling ballads of Spain, and the delicate music of the Italian lyre. But from all these has breathed the breath of war, that has swept the heart-strings of innumerable generations of men!

And when the youth becomes a man, his country invites his services in war, and holds before his bewildered imagination the highest prizes of honor. For him is the pen of the historian and the verse of the poet. His soul swells at the thought, that he also is a soldier; that his name shall be entered on the list of those, who have borne arms in the cause of their country; and, perhaps, he dreams, that he too may sleep, like the Great Captain of Spain, with a hundred trophies over his grave. But the contagion spreads among us, beyond those bands on whom is imposed the positive obligation of law. Respectable citizens volunteer to look like soldiers, and to affect in dress, in arms and deportment, what is called "the pride, pomp and circumstance of glorious war." The ear-piercing fife has to-day filled our streets, and we have come together, on this Anniversary, by the thump of drum and the sound of martial music.

It is not strange, then, that the spirit of war still finds a home among us; nor that its honors are still regarded. This fact may seem to give point to the bitter philosophy of Hobbes, who held that the natural state of mankind was war, and to sustain the exulting language of the soldier in our own day, who has said: "War is the condition of this world. From man to the smallest insect, all are at strife; and the glory of arms, which cannot be obtained without the exercise of honor, fortitude, courage, obedience, modesty and temperance, excites the brave man's patriotism, and is a chastening correction of the rich man's pride."*

I now ask, what is *war?* Let me give a short but strictly scientific answer. *War is a public, armed, contest, between nations, in order to establish* JUSTICE *between them;* as, for instance, to determine a disputed boundary line, or the title to a territory. It has been called by Lord Bacon "one of the highest trials of right, when princes and states, that acknowledge no superior upon earth, shall put themselves upon the justice of God for the deciding of their controversies by such success as it shall please him to give on either side."†

This definition may seem, at first view, to exclude what are termed by "martial logic," *defensive wars.* But a close consideration of the subject will make it apparent that no war can arise among Christian nations, at the present day, except to determine an asserted right. The wars usually and falsely called *defensive* are of this character. They are appeals for justice to force; endeavors to redress evils by force. They spring from the sentiment of vengeance or honor. They inflict evil for evil, and vainly essay to overcome evil by evil. The wars that now lower from Mexico and England are of this character. On the one side, we assert a title to Texas, which is disputed; and on the other a title to Oregon, which is disputed. Who can regard the *ordeal by battle* in these causes as a defensive war? The object proposed in 1834 by war with France, was to secure the payment of five millions of dollars, in other words, to determine, by the arbitrament of war, a question of justice. It would be madness to term this a case of self-defence; it has been happily said,* if, because a man refuses to pay a just debt, I go to his house and beat him, that is not *self-defence;* but such was precisely the conduct proposed to be adopted by our country. The avowed purpose of the war, declared by the United States against Great Britain in 1812, was to obtain from the latter power an abandonment of her unrighteous claim to search American vessels. It is a mockery to miscall such a contest a *defensive* war.

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* Napier Penins. War. VI. 688. "Why, man," said a British General, "do you know that a grenadier is the greatest character in this world," and after a moment's pause, adding the emphasis of an oath to his speech, "and, I believe, in the next too." Southey's Colloquies on the Progress and Prospects of Society, I. 211.

† Bacon's Works, Vol. III. p. 40. This definition of Lord Bacon has been adopted by Mr. Chancellor Kent in his authoritative work.—Kent, Commentaries on American Law, Vol. I. p. 46. Vattel defines war as "that state in which we *prosecute* our *rights* by *force.*"—Law of Nations, Book 3, ch. 1, § 1; in which he very nearly follows Bynkershoek, who says; Bellum est eorum, qui suæ potestatis sunt, *juris sui persequendi ergo*, concertatio per vim vel dolum.—Quæst. Jur. Pub. Lib. I. c. 7. Mr. Whewell, in his recent work, says; Though war is appealed to because there is no other ultimate tribunal to which States can have recourse, *it is appealed to for justice.*—Elements of Morality and Polity, Vol. II. § 1146. Mr. Lieber says, in a work abounding in learning and sagacious thought, Political Ethics, II. 643, that war is a mode of obtaining rights; a definition which does not differ in substance from that in the text; though he imagines that such wars may justly be regarded as defensive in their character. He advocates war with the ardor of one inspired by the history of the past, and looking no higher than to history for rules of conduct, while his own experience of suffering on fields of slaughter has failed to make him discern the folly and wickedness of such a mode of determining questions between nations

I repeat, therefore, that war is a public armed contest, between nations, in order to establish justice between them.

When we have considered the character of war; the miseries it produces; and its utter and shameful insufficiency, as a means of establishing *justice*, we may then be able to determine, strictly and logically, whether it must not be ranked with crimes from which no true honor can spring, to individuals or nations, but rather condemnation and shame.

I. And first as to the character of war, or that part of our nature in which it has its origin. Listen to the voice of the ancient poet of Bœotian Ascra:

> This is the law for mortals ordained by the Ruler of Heaven;
> Fishes and Beasts and Birds of the air devour each other;
> JUSTICE *dwells not among them; only to* MAN *has he given*
> JUSTICE *the Highest and Best.*†

The first idea that rises to the mind, in regarding war, is, that it is a resort to force, whereby each nation strives to overpower the other. Reason, and the divine part of our nature, in which alone we differ from the beasts, in which alone we approach the Divinity, in which alone are the elements of *justice*, the professed object of war, are dethroned. It is, in short, a temporary adoption, by men, of the character of wild beasts, emulating their ferocity, rejoicing like them in blood, and seeking, as with a lion's paw, to hold an asserted right. This character of war is somewhat disguised, in more recent days, by the skill and knowledge which it employs; it is, however, still the same, made more destructive by the genius and intellect which have been degraded to its servants. The early poets, in the unconscious simplicity of the world's childhood, make this strikingly apparent. All the heroes of Homer are likened in their rage to the ungovernable fury of animals or things devoid of human reason or human affection. Menelaus presses his way through the crowd, "like a beast."[*] Sarpedon was aroused against the Argives, "as a lion against the crooked-horned oxen;"[†] and afterwards rushes forward "like a lion nourished on the mountains for a long time famished for want of flesh, but whose courage compels him to go even to the well-guarded sheep-fold."[‡] The great Telamonian Ajax in one and the same passage is likened to "a beast," "a tawny lion" and "an obstinate ass;"[§] and all the Greek chiefs, the flower of the camp, are described as ranged about Diomed, "like raw-eating lions or wild boars whose strength is irresistible."[‖] And Hector, the hero in whom cluster the highest virtues of polished war, is called by the characteristic term "the tamer of horses," and one of his renowned feats in battle, indicating only brute strength, is where he takes up and hurls a stone which two of the strongest men could not easily put into a wagon;[¶] and he drives over dead bodies and shields, while the axle is defiled by gore, and the guard about the seat, sprinkled from the horse's hoofs and from the tires of the wheels;[*] and, in that most admired passage of ancient literature, before returning his child, the young Astyanax, to the arms of his wife, he invokes the gods for a single blessing on his head, that "he may excel his father, and bring home *bloody spoils*, his enemy being slain, and *so make glad the heart of his mother.*"[†]

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* Rev. Andrew P. Peabody, in his Address on the Nature and Influence of War, where he treats this topic, as well as the whole subject of war, with great point and effect.

† Hesiod, Works and Days, v. 276—279. Cicero also says; Neque ulla re longius absumus a naturâ ferarum, in quibus inesse fortitudinem sæpe dicimus, ut in equis, in leonibus; justitiam, æquitatem, bonitatem non dicimus.—De Offic. Lib. 1 cap. 16.

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[*] *Θηρὶ ἐοικώς.* Il. III. 449.

[†] *Λέονθ᾽ ὡς βουσὶν ἕλιξιν.* Il. XII. 293.

[‡] Il. XII. 300—306.

[§] Il. XI. 546—558.

[‖] Il. V. 782.

[¶] Il. XII. 445—449. See a similar act, Æneid XII. 826.

Illustrations of this nature might be gathered from the early fields of modern literature, as well as from the more ancient, all showing the unconscious degradation of the soldier, who, in the pursuit of *justice*, renounces the human character to assume that of the beasts. Henry V, in our own Shakspeare, in the spirit-stirring appeal to his troops, says;

> When the blast of war blows in our ears,
> *Then imitate the action of the tiger.*[‡]

This is plain and frank, and reveals the true character of war.

I need not dwell on the moral debasement of man that must ensue. All the passions of his nature are unleashed like so many blood-hounds, and suffered to rage. All the crimes which fill our prisons stalk abroad, plaited with the soldier's garb, and unwhipt of justice. Murder, robbery, rape, arson, theft, are the sports of this fiendish Saturnalia, when

> The gates of mercy shall be all shut up
> And the fleshed soldier, rough and hard of heart,
> In liberty of bloody hand shall range
> *With conscience wide as hell.*

Such is the foul disfigurement which war produces in man; man, of whom it has been said, "how noble in reason, how infinite in faculties! in form and moving, how express and admirable! in action, how like an angel! in apprehension how like a God!"

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[*] Il. XI. 534. See a similar scene, Æneid XII. 337. In modern warfare, we find a similar sketch of the *great* Condé. The soul is startled by the picture of a distinguished person, in whom the human character has been blotted out; "Le Duc étàit couvert de sueur, de poussière, et de fumée; le feu jaillissait de ses yeux, *et le bras dont it tenait son épée était ensanglanté jusqu 'au coude.* 'Vous êtēs blessé, Monseigneur?' Lui demanda Bussaq. 'Non, non,' répondit Enghien [Condé]; '*c'est le sang de ces coquins!' Il voulait parler des ennemis.*" Mahon, Essai sur la vie du Grand Condé, p. 60.

[†] Il. VI. 476—481.

[‡] Hen. V. Act 3, Scene 1.

II. Let us now consider more particularly the effects or consequences of this resort to brute force, in the pursuit of *justice.*

The immediate effect of war is to sever all relations of friendship and commerce between the two nations and every individual thereof, impressing upon each citizen or subject the character of enemy. Imagine this between England and the United States. The innumerable ships of the two countries, the white doves of commerce, bearing the olive of peace, would be driven from the sea, or turned from their proper purposes to be ministers of destruction; the threads of social and business intercourse which have become woven into a thick web would be suddenly snapped asunder; friend could no longer communicate with friend; the twenty thousand letters, which each fortnight are speeded, from this port alone, across the sea, could no longer be sent, and the human affections and desires, of which these are the precious expression, would seek in vain for utterance. Tell me, you, who have friends and kindred abroad, or who are bound to foreigners by the more worldly relations of commerce, are you prepared for this rude separation?

But this is little compared with what must follow. This is only the first portentous shadow of the disastrous eclipse, the twilight usher of thick darkness, that is to cover the whole heavens, as with a pall, to be broken only by the blazing lightnings of the battle and the siege.

The horrors of these redden every page of history; while, to the disgrace of humanity, the historian has rarely applied to their brutal authors the condemnation they deserve. A popular writer, in our own day, dazzled by those false ideas of greatness at which reason and Christianity blush, does not hesitate to dwell on them with terms of rapture and eulogy.*

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* The same spirit pervades the *Histoire de la Revolution Française*, by Thiers, and, so far as I have read it, his later work, the History of the Consulate and Empire. For a degrading picture of what is called *glory*, I would refer to the *Histoire de la Revolution*, Tom. 8, p. 430. War in every age has been the same; and to the shame of human nature has never wanted historians,

At Tarragona, above six thousand human beings, almost all defenceless, men and women, grey hairs and infant innocence, attractive youth and wrinkled age, were butchered by the infuriated troops in one night, and the morning sun rose upon a city whose streets and houses were inundated with blood. And yet this is called "a glorious exploit."* This was a conquest by the French. At a later day Ciudad Rodrigo was stormed by the British, when there ensued, in the license of victory, a frightful scene of plunder and violence, while shouts and screams on all sides fearfully intermingled with the groans of the wounded. The churches were desecrated, the cellars of wine and spirits were pillaged; fire was wantonly applied to different parts of the city; and brutal intoxication spread in every direction. It was only when the drunken men dropped from excess, or fell asleep that any degree of order was restored, and yet the storming of Ciudad Rodrigo is pronounced "one of the most brilliant exploits of the British army."† This exploit was followed by the storming of Badajoz, in which the same scenes were enacted again with added atrocities. Let the story be told in the words of a partial historian; "Shameless rapacity, brutal intemperance,

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who recounted its deeds with feelings kindred to those by which they were inspired. Froissart, who takes special delight in describing "les rencontres ōu l'on pouvoit voir d'une et d'autre part, belles envahies, belles rescousses, beaux faits d'armes, et belles prouesses," has recounted with much detail all the assaults of cities and castles, the almost constant result of which wars, "que la ville étoit assez tôt gagnèe par force et tantôt robée et mise à l'épée, sans mercy, hommes et femmes et enfans, et les eglises arses et bruslées." Lewis of Spain transported his troops to Basse-Bretannque, "pour aller ardoir et rober tout le pays, et trouvèrent si grand avoir que merveille seroit à raconter." Gaultier de Maury pursued them; but, he occupied himself "à maisons et villes ardoir, et à gagner du butin." Froissart, c. 178, p. 88. Sismondi has correctly remarked that Froissart accorded his admiration equally to bravery and to cunning, to the courtesy which pardoned as to the rage which caused the flow of torrents of blood. Sismondi, Histoire des Français, Tom. X. 373. Even the beautiful soul of Wilberforce, which sighed that "the bloody laws of his country sent many unprepared into another world," by capital punishment, could hail the slaughter of Waterloo, on the Sabbath that he held so holy, by which thousands were hurried into Eternity, as "a splendid victory!" Life of Wilberforce, IV. 256, 261.

* Alison, Hist. of French Rev. VIII. 114.

† Alison, Hist. VIII. 189.

savage lust, cruelty and murder, shrieks and piteous lamentations, groans, shouts, imprecations, the hissing of fire bursting from the houses, the crashing of doors and windows, and the report of muskets used in violence, resounded for two days and nights in the streets of Badajoz! On the third when the city was sacked, when the soldiers were exhausted by their excesses, the tumult rather subsided than was quelled! The wounded were then looked to, the dead disposed of."*

The same terrible war affords another instance of the horrors of a siege, which cries to Heaven for judgment. For weeks before the surrender of Saragossa, the deaths were from four to five hundred daily; the living were unable to bury the dead, and thousands of carcasses, scattered about the streets and court-yards, or piled in heaps at the doors of churches, were left to dissolve in their own corruption or to be licked up by the flames of the burning houses. The city was shaken to its foundation by sixteen thousand shells thrown during the bombardment, and the explosion of forty-five thousand pounds of powder in the mines, while the bones of forty thousand persons of every age and both sexes, bore dreadful testimony to the unutterable atrocity of war.†

These might be supposed to be pictures from the age of Alaric, Scourge of God, or of Attila, whose boast was, that that the grass did not grow where his horse had set his foot; but no; they belong to our own times. They are portions of the wonderful but wicked career of him, who stands out as the foremost representative of worldly grandeur. The heart aches, as we follow him and his marshals from field to field of glory.‡ At Albuera in Spain, we see the horrid

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* Napier, History of Penins. War, IV. 431.

† Napier, Hist. of Pen. War, II. 46. For the terrific storming of St. Sebastian, see Napier, VI. 197—219.

‡ A living poet of Italy, who will be placed by his prose, among the great names of his country's literature, in a deathless ode, which he has thrown on the Urn of Napoleon, leaves to posterity to judge, whether his was true glory.

Dall' Alpi alle Piramidi,
Dal Manzanare al Reno
Di quel securo il fulmine,
Tenea dietro il baleno,

piles of carcasses, while all the night the rain pours down, and the river and the hills and the woods on each side, resound with the dismal clamors and groans of dying men.[*] At Salamanca, long after the battle, we behold the ground still blanched by the skeletons of those who fell, and strewn with the fragments of casques and cuirasses. We follow in the dismal traces of his Russian campaign; at Valentina[†] we see the soldiers black with powder, their bayonets bent with the violence of the encounter; the earth ploughed with cannon shot, the trees torn and mutilated, the field covered with broken carriages, wounded horses and mangled bodies, while disease, sad attendant on military suffering, sweeps thousands from the great hospitals of the army, and the multitude of amputated limbs, which there is not time to destroy, accumulate in bloody heaps, filling the air with corruption.[‡] What tongue, what pen, can describe the horrors of the field of Borodino, where between the rise and set of a single sun, more than one hundred thousand of our fellow men, equalling in number the population of this whole city, sank to the earth dead or wounded? Fifty days after the battle, no less than twenty thousand are found lying where they have fallen, and the whole plain is strewn with half-buried carcasses of men and horses, intermingled with garments dyed in blood, and bones gnawed by dogs and vultures. Who can follow the French army, in their dismal retreat, avoiding the pursuing spear of the Cossack, only to sink under the sharper frost and ice, in a temperature below zero, on foot, without a shelter for their bodies, and famishing on horse-flesh and a miserable compound of rye and snow-water?

> Scoppiò da Scilla al Tanai
> Dall' uno all' altro mar.
> *Fu vera gloria? Ai posteri*
> *L' ardua sentenza.*
>
> *Manzoni*, *Il Cinque Maggio.*

When men learn to appreciate moral grandeur the easy sentence will be rendered, and the glory of the warrior be scattered like the unclean dust of his earthly body.

[*] Napier, III, 543.

[†] Alison, VII, 241.

[‡] Alison, VII, 355.

Still later we behold him with a fresh array, contending against new forces under the walls of Dresden; and as the Emperor rides over the field of battle, having supped with the king of Saxony the night before, ghastly traces of the contest of the preceding day, are to be seen on all sides; out of the newly made graves hands and arms are projecting, stark and stiff above the earth.* And shortly afterwards when shelter is needed for the troops, direction is given to occupy the Hospitals for the Insane, with the order "turn out the mad."†

But why follow further in this career of blood? There is, however, one other picture of the atrocious, though natural consequences of war, occuring almost within our own day, that I would not omit. Let me bring to your mind Genoa, called the Superb, City of palaces, dear to the memory of American childhood as the birthplace of Christopher Columbus, and one of the spots first enlightened by the morning beams of civilization, whose merchants were princes, and whose rich argosies, in those early days, introduced to Europe, the choicest products of the East, the linen of Egypt, the spices of Arabia, and the silks of Samarcand. She still sits in Queenly pride, as she did then, her mural crown studded with towers, her churches rich with marble floors and rarest pictures, her palaces of ancient Doges and Admirals yet spared by the hand of Time, her close streets, thronged by one hundred thousand inhabitants, at the feet of the maritime Alps, as they descend to the blue and tideless waters of the Mediterranean sea, leaning with her back against their strong mountain sides, overshadowed by the foliage of the fig tree and the olive, while the orange and lemon fill with their perfume the air where reigns perpetual spring. Who can contemplate such a city without delight? Who can listen to the story of her sorrows without a pang?

In the autumn of 1799, the armies of the French Republic, which had dominated over Italy, were driven from their conquests, and compelled with shrunk forces, under Massena, to seek shelter within the walls of Genoa. After various efforts by the Austrian General on the land, aided by a bombardment from the British fleet in the harbor, to force the strong defences by assault, the city is invested by a strict blockade. All communication with the country is cut off on the one side, while the harbor is closed by the ever-wakeful British watch-dogs of war. Within the beleaguered and unfortunate city, are the peaceful inhabitants, more than those of Boston in number, besides the French troops. Provisions soon become scarce; scarcity sharpens into want, till fell Famine, bringing blindness and madness in her train, rages like an Erinnys. Picture to yourselves this large population, not pouring out their lives in the exulting rush of battle, but wasting at noon-day, the daughter by the side of the mother, the husband by the side of the wife. When grain and rice fail, flax-seed, millet, cocoas and almonds are ground by hand-mills into flour, and even bran, baked with honey, is eaten not to satisfy, but to deaden hunger. During the seige, but before the last extremities, a pound of horse-flesh is sold for 32 cents: a pound of bran for 30 cents; a pound of flour for $1,75. A single bean is soon sold for four cents, and a biscuit of three ounces for $2,25, and none are finally to be had. The miserable soldiers, after devouring all the horses in the city are reduced to the degradation of feeding on dogs, cats, rats and worms, which are eagerly hunted out in the cellars and common sewers. Happy were now, exclaims an Italian historian, not those who lived, but those who died! The day is dreary from hunger; the night more dreary still from hunger, accompanied by delirious fancies. Recourse is now had to herbs; monk's rhubarb, sorrel, mallows, wild succory. People of every condition, women of noble birth and beauty, seek on the slope of the mountain enclosed within the defences, those aliments which nature destined solely for the beasts. A little cheese and a few vegetables are all that can be afforded to the sick and wounded, those sacred stipendaries upon human charity. Men and women, in the last anguish of despair, now fill the air with their groans and shrieks; some in spasms, convulsions and contortions, gasping their last breath on the unpitying stones of the streets; alas! not more unpitying than man. Children, whom a dying mother's arms had ceased to protect, the orphans of an hour, with piercing cries, seek in vain the compassion of the passing stranger; but none pity or aid them. The sweet fountains of sympathy are all closed by the selfishness of individual distress. In the general agony, the more impetuous rush out of the gates, and impale themselves on the Austrian bayonets, while others precipitate themselves into the sea. Others still (pardon the dire recital!) are driven to eat their shoes and devour the leather of their pouches, and the horror of human flesh has so far abated that numbers feed, like cannibals, on the bodies of the dead.*

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* Alison, IX, 226.

† Alison, IX, 267.

At this stage the French general capitulated, claiming and receiving what are called "the honors of war;" but not before twenty thousand innocent persons, old and young, women and children, having no part or interest in the war, had died the most horrible of deaths. The Austrian flag floated over the captured Genoa but a brief span of time; for Bonaparte had already descended, like an eagle, from the Alps, and in less than a fortnight afterwards, on the vast plains of Marengo, shattered, as with an iron mace, the Austrian empire in Italy.

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* This picture has been drawn from the animated sketches of Botta, (History of Italy, under Napoleon, vol. I, chap. I.) Alison, (Hist. of French Rev. vol. IV, chap. XXX) and Arnold, (Modern History, Lec. IV.) The humanity of the latter is particularly aroused to the condemnation of this most atrocious murder of innocent people, and he suggests, as a sufficient remedy, a modification of the laws of war, permitting all non-combatants to withdraw from a blockaded town! They may be spared in this way the languishing death by starvation; but they must desert their firesides, their pursuits, all that makes life dear, and become homeless exiles; a fate little better than the former. It is strange that Arnold's pure soul and clear judgment did not recognize the great truth, that all war is unrighteous and unlawful, and that the horrors of this siege are its natural consequence. Laws of war! Laws in that which is lawless! order in disorder! rules of wrong! There can be only *one law of war;* that is the great law, which pronounces it unwise, unchristian and unjust. The term, Laws or *Rights* of War, has been referred to the ancient Greeks; but, it is believed, that they are not chargable with the invention of such a contradictory combination of words. Grotius was misled, and it would seem after him, Sir James Mackintosh (Lecture on the Law of Nature and Nations) into the belief that Aristotle wrote a treatise *Δικαιώματα πολεμων*, by a corrupted passage of Ammonius, the Grammarian, in his Treatise, of like and different words, where there is *πολεμων Wars*, instead of *πόλεων States.* See Barbeyrac's note to § 38 of the Preliminary Discourses of Grotius on the Rights of Peace and War; Selden, Of the Law of Nature and Nations, juxta Discipl. Hebr. Lib. chap. 1, p. 4.

But wasted lands, ruined and famished cities, and slaughtered armies are only a part of "the purple testament of bleeding war." Every soldier is connected, as all of you, by dear ties of kindred, love and friendship. He has been sternly summoned from the warm embraces of family. To him there is, perhaps, an aged mother, who has fondly hoped to lean her decaying frame upon his more youthful form; perhaps a wife, whose life has been just entwined inseparably with his, now condemned to wasting despair; perhaps brothers, sisters. As he falls on the field of battle must not all these rush with his blood? But who can measure the distress that radiates as from a bloody sun, penetrating innumerable homes? Who can give the guage and dimensions of this incalculable sorrow? Tell me, ye who have felt the bitterness of parting with dear friends and kindred, whom you have watched tenderly till the last golden sands have run out, and the great hour glass is turned, what is the measure of your anguish? Your friend has departed, soothed by kindness and in the arms of love; the soldier gasps out his life, with no friend near, while the scowl of hate darkens all that he beholds, darkens his own departing soul. Who can forget the anguish that fills the bosom and crazes the brain of Leonora, in the matchless ballad of Bürger, who seeks in vain among the returning squadrons for her lover left dead on Prague's ensanguined plain? But every field of blood has many Leonoras. From a poet of antiquity, we draw a vivid picture of homes made desolate by the murders of battle.*

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*Agamemnon of Æschylus; *Chorus*. This is from the beautiful translation of John Symmons.

But through the bounds of Grecia's land,
Who sent her sons for Troy to part,
See mourning, with much suffering heart,
On each man's threshold stand,
On each sad hearth in Grecia's land.
Well may her soul with grief be rent;
She well remembers whom she sent,
She sees them not return:
Instead of men to each man's home,
Urns and ashes only come,
And the armor which they wore;
Sad relics to their native shore.
For Mars, the barterer of the lifeless clay,
Who sells for gold the slain,
And holds the scale in battle's doubtful day,
High balanced o'er the plain,
From Ilium's walls for men returns
Ashes and sepulchral urns;
Ashes wet with many a tear,
Sad relics of the fiery bier.
Round the full urns the general groan
Goes, as each their kindred own.
One they mourn in battle strong,
And one, that 'mid the armed throng
He sunk in glory's slaughtering tide,
And for another's consort died.

* * * * * * *

Others they mourn whose monuments stand
By Ilium's walls on foreign strand;
Where they fell in beauty's bloom,
There they lie in hated tomb;
Sunk beneath the massy mound,
In eternal chambers bound.

III. From this dreary picture of the miseries of war, I turn to another branch of the subject.

War is utterly ineffectual to secure or advance the object at which it aims. The misery which it excites, contributes to no end, helps to establish no right, and therefore, in no respect determines justice between the contending nations.

The fruitlessness and vanity of war appear in the results of the great wars by which the world has been lacerated. After long struggles, in which each nation has inflicted and received incalculable injury, peace has been gladly obtained on the basis of the condition of things before the war.—

Status ante Bellum. Let me refer for an example to our last war with Great Britain, the professed object of which was to obtain from the latter Power a renunciation of her claim to impress our seamen. The greatest number of American seamen ever officially alleged to be compulsorily serving in the British navy was about eight hundred. To overturn this injustice, the whole country was doomed for more than three years to the accursed blight of war. Our commerce was driven from the seas; the resources of the land were drained by taxation; villages on the Canadian frontier were laid in ashes; the metropolis of the Republic was captured, and gaunt distress raged every where within our borders. Weary with this rude trial, our Government appointed Commissioners to treat for Peace, under these instructions, "Your first duty will be to conclude peace with Great Britain, and you are authorized to do it, *in case* you obtain a satisfactory stipulation against impressment, one which shall secure under our flag protection to the crew. If this encroachment of Great Britain is not provided against, *the United States have appealed to arms in vain.*"* Afterwards, despairing of extorting from Great Britain a relinquishment of the unrighteous claim, and forseeing only an accumulation of calamities from an inveterate prosecution of the war, our Government directed their negociators, in concluding a Treaty of Peace, "*to omit any stipulation on the subject of impressment.*" The instructions were obeyed and the Treaty that once more restored to us the blessings of Peace, which we had rashly cast away, and which the country hailed with an intoxication of joy, contained no allusion to the subject of impressment, nor did it provide for the surrender of a single American sailor detained in the service of the British navy, and thus, by the confession of our own Government, "the United States had appealed to arms IN VAIN."†

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* American State Papers, vol. VII, p. 577.

† This sketch has been drawn from the *War and Peace*, by Hon. William Jay, a gentleman whose various writings in the cause of humanity, marked by rare power of logic, accuracy of statement and elevated entiment, will shed upon his name a fame not inferior to that of his illustrious father.

All this is the natural result of an appeal to war in order to establish *justice.* Justice implies the exercise of the judgment in the determination of *right.* Now war not only supersedes the judgment, but delivers over the results to superiority of *force*, or to *chance.*

Who can measure before-hand the currents of the heady fight? In common language we speak of the chances of battle; and soldiers, whose lives are devoted to this harsh calling, yet speak of it as a game. The Great Captain of our age, who seemed to chain victory to his chariot wheels, in a formal address to his officers, on entering Russia, says: "in war *fortune* has an equal share with ability in procuring success."* The mighty victory of Marengo, the accident of an accident, wrested unexpectedly at the close of the day from a foe, who at an earlier hour was successful, must have taught him the uncertainty of war. Afterwards, in the bitterness of his spirit, when his immense forces had been shivered, and his triumphant eagles driven back with broken wing, he exclaimed, in that remarkable conversation recorded by the Abbé de Pradt; "Well! this is war. High in the morning—low enough at night. From a triumph to a fall is often but a step."† The military historian of the Peninsular campaigns, says: "‡*Fortune* always asserts her supremacy in war, and often from a slight mistake, such disasterous consequences flow, that in every age and in every nation the *uncertainty* of wars has been proverbial;" and again, in another place, in considering the conduct of Wellington, he says: "A few hours delay, an accident, a turn of fortune and he would have been foiled! aye! but this is war, *always dangerous and uncertain*, an ever rolling wheel and armed with scythes."‖ And can intelligent man look for justice to an an ever-rolling wheel armed with scythes?

The character of war, as dependent upon chance, might be illustrated from every page of history. It is less discerned, perhaps, in the conflict of large masses, than of individuals, though equally present in both. How capriciously the wheel turned when the fortunes of Rome were staked on the combat between the Horatii and Curiatii, and who, at one time, could have augured that the single Horatius, with his two slain brothers on the field, would have overpowered the three living enemies?

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* Alison, VIII, 346.

† Alison, IX, 239.

‡ Napier, VI, 687.

‖ Napier, IV, 477.

But the most interesting illustration is to be found, in the history of the private wars, and particularly of the judicial combat, or of *trial by battle*, the dark ages. The object proposed in these cases was precisely the professed object of modern war, the determination of justice. Did time permit, it would be interesting and instructive to trace the curious analogies between this early ordeal by battle, child of superstitions and brute force, and the great ordeal of war.* Like the other ordeals, by burning ploughshares, by holding hot iron, by dipping the hand in hot water, or hot oil, they are all a presumptous appeal to Providence, under an apprehension and hope, that Heaven will give the victory to him who has the right. The monstrous usage of trial by battle prevailed in the early modern centuries throughout Europe; it was a part of the common law of England; and though it fell into desuetude, overruled by the advancing spirit of civilization, still, to the disgrace of the English law, it was not legislatively abolished, until in 1817 the right to it had been distinctly claimed in Westminster Hall. Abraham Thornton, on appeal against him for murder, when brought into court, pleaded as follows; "Not guilty, and I am ready to defend the same by my body;" and thereupon taking off his glove, he threw it upon the floor of the court. The appellant did not choose to submit to this trial, and abandoned his proceedings. In the next session of Parliament, *trial by battle* was abolished in England.† The Attorney General, on introducing the Bill for this purpose remarked, that, "if the party had persevered he had no doubt the legislature would have felt it their imperious duty to interfere and pass an *ex post facto law, to prevent so degrading a spectacle from taking place.*"*

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* See Appendix, Note B.

† Blackstone, Com. III. 337, Chitty's note.

To an early monarch of France belongs the honor of first interposing the royal authority, for the entire suppression within his jurisdiction of this impious usage, so universally adopted, so dear to the nobility and so profoundly rooted in the institutions of the Feudal Age. And here let me pause with reverence, as I mention the name of St. Louis, a prince, whose unenlightened errors may find easy condemnation in our age of larger toleration and wider knowledge, but whose firm and upright soul, whose exalted sense of justice, whose fatherly regard for the happiness of his people, whose respect for the rights of others, whose conscience void of offence before God and man, make him foremost among Christian rulers, the highest example for a Christian prince or a Christian people. He was of conscience all-compact, subjecting all that he did to the single and exclusive test of moral rectitude, disregarding all considerations of worldly advantage, all fear of worldly consequences.

His soul, thus tremblingly sensitive to questions of right, was shocked by the judicial combat. In his sight, it was a sin thus *to tempt God*, by demanding of him a miracle, whenever judgment was to be pronounced. In 1260 he assembled a parliament, where he issued an ordinance, to take effect throughout the royal dominion, in which he expressly says; "*We forbid to all persons throughout our dominions the trial by battle;* and, instead of battles, we establish proofs by witnesses; and we do not take away the other good and loyal proofs which have been used in lay courts to this day. * * * AND THESE BATTLES WE ABOLISH IN OUR DOMINIONS FOREVER."†

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* Annual Register, Vol. 61, p. 52, (1819.)

† "*Nous deffendons à tous les batailles par tout nostre demengne (domaine);* mes nous n'ostons mie les claims, les respons, les convenants, ne tous autres convenants que l'en fait en court laie, siques à ore selon les usages de divers pays, *fors que nous ostons les batailles;* et en lieu des batailles nous metons prueves de tesmoins; et si n'oston pas les autres bones prueves et loyaux qui out este en court laie siques à ore. * * * *Et ces batailles nous ostons en mestre demaigne à toujours.*" Recueil des Ordonnances, t. I. p. 86—93. Guizot, Histoire de la Civilization en France, IV. 162—164.

Such were the restraints on the royal authority, that this Ordinance was confined in its operation to the demesnes of the King; and did not extend to those of the barons and feudatories of the realm. But where the power of St. Louis did not reach, there he labored by his example, his influence and his express intercession. He treated with many of the great vassals of the crown, and induced them to renounce this unnatural usage. Though for many years later France continued in some parts to be vexed by it, still its overthrow commenced with the Ordinance of St. Louis.

Honor and blessings attend the name of this truly Christian King; who submitted all his actions to the Heaven-descended sentiment of duty; who began a long and illustrious reign by renouncing and restoring a portion of the conquests of his predecessor, saying to those about him, whose souls did not ascend to the height of his morality, "I know that the predecessors of the King of England have lost by the right of conquest the land which I hold; and the land which I give him, I do not give because I am bound to him or his heirs, *but to put love between my children and his children, who are cousin-germans;* and it seems to me that what I thus give, I employ to good purpose!"* Honor to him who never grasped by force or cunning any new acquisition; who never sought advantage from the turmoils and dissentions of his neighbors, but studied to allay them; who, first of Christian Princes, rebuked the spirit of war, saying to those who would have him profit by the dissentions of his neighbors, "Blessed are the Peace-makers;"† who abolished *trial by battle* throughout his dominions; who aimed to do justice to all his people, and to all neighbors, and in the extremity of his last illness, on the sickening sands of Tunis, among the bequests of his spirit, enjoined on his son and successor, "in maintaining justice, to be inflexible and loyal, neither turning to the right hand or left!"‡

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* Joinville, Hist. de St. Louis, p. 142; Guizot, Histoire de la Civilization en France, Tome IV, 151.

† Benoist soient tuit li apaiseur, Joinville, pp. 143, 144; Guizot.

‡ Sismondi, Histoire des Franc VIII. 196.

The history of the trial by battle will illustrate and bring home to your minds the chances of war, and the consequent folly and wickedness of submitting any question to its arbitrament. As we revert to those early periods in which it prevailed, our minds are impressed by the barbarism which we behold; we recoil, with horror, from the awful subjection of justice to brute force; from the impious profanation of the character of God in deeming him present in these outrages; from the moral degradation out of which they sprang, and which they perpetuated; we involve ourselves in our self-complacent virtue, and thank God that we are not as these men, that ours is, indeed, an age of light, while theirs was an age of darkness!

But are we aware that this monstrous and impious usage, which our enlightened reason so justly condemns in the cases of individuals is openly avowed by our own country, and by the other countries of the earth, as a proper mode of determining justice between them? Be upon our heads and upon our age the judgment of barbarism, which we pronounce upon those that have gone before! At this moment, in this period of light, when the noon-day sun of civilization seems, to the contented souls of many, to be standing still in the Heavens, as upon Gibeon, the relations between nations are governed by the same rules of barbarous, brutal force, which once prevailed between individuals. The dark ages have not passed away; Erebus and black night, born of Chaos, still brood over the earth; nor shall we hail the clear day, until the mighty hearts of the nations shall be touched, as those of children, and the whole earth, individuals and nations alike, shall acknowledge *one and the same rule of Right.*

Who has told you, fond man! to regard that as a glory when performed by a nation, which is condemned as a crime and a barbarism, when committed by an individual? In what vain conceit of wisdom and virtue do you find this incongruous morality? Where is it declared that God, who is no respecter of persons, is a respecter of multitudes? Whence do you draw these partial laws of a powerful and impartial

God? Man is immortal; but States are mortal. He has a higher destiny than States. Shall States be less amenable to the great moral laws? Each individual is an atom of the mass. Must not the mass be like the individuals of which it is composed? Shall the mass do what individuals may not do? No. The same moral laws which govern individuals govern masses, as the same laws in nature prevail over large and small, controlling the fall of an apple and the orbits of the planets. It was the beautiful discovery of Newton that gravity is a universal property of matter, a law obeyed by every particle in reference to every other particle, and connecting the celestial mechanism with terrestrial phenomena. So the *Rule of Right*, which binds the single individual, binds two or three when gathered together—binds conventions and congregations of men—binds villages, towns and cities—binds states, nations and empires—clasps the whole human family in its seven-fold embrace; nay more,

> Beyond the flaming bounds of place and time
> The living throne, the sapphire blaze,

it binds the angels of Heaven, the Seraphim, full of love, the Cherubim, full of knowledge; above all, it binds, in self-imposed bonds, a just and omnipotent God. It is of this, and not of any earthly law, that Hooker speaks in that magnificent period which sounds like an anthem; "of law no less can be said, than that her seat is the bosom of God, her voice the harmony of the world; all things in Heaven and earth do her homage, the very least as feeling her care, the greatest as not exempted from her power; both angels and men, and creatures of what condition soever, though each in different sort and manner, yet all with uniform consent admiring her as the mother of their peace and joy."

We are struck with horror and our hair stands on end, at the report of a single murder; we think of the soul that has been hurried to its final account; we seek the murderer; and the law puts forth all its energies to secure his punishment. Viewed in the clear light of truth, what is war and battle but organized murder; murder of malice afore-thought; in cold blood; through the operation of an extensive machinery of crime; with innumerable hands; at incalculable cost of money; through subtle contrivances of cunning and skill; or by the savage brutal assault? Was not the Scythian right, when he said to Alexander, "Thou boastest, that the only design of thy marches is to extirpate robbers; thou thyself art the greatest robber in the world." Among us one class of sea-robbers is hanged as pirates; another is hailed with acclamation:

> Ille crucem sceleris pretium tulit, hic diadema.*

It was amidst the thunders which made Sinai tremble, that God declared; "Thou shalt not kill;" and the voice of these thunders, with this commandment, has been prolonged to our own day in the echoes of Christian churches. What mortal shall restrain the application of these words? Who on earth is empowered to vary or abridge the commandments of God? Who shall presume to declare, that this injunction was directed, not to nations, but to individuals only; not to many but to one only; that one man may not kill, but that many may; that it is forbidden to each individual to destroy the life of a single human being, but that it is not forbidden to a nation to cut off by the sword a whole people?

When shall the St. Louis of the nations arise? the Christian ruler or Christian people, who shall proclaim to the whole earth, that henceforward forever the *great trial by battle* shall cease; that it is the duty and policy of nations to establish love between each other; and in all respects, at all times, towards all persons, as well their own people, as the people of other lands, to be governed by the sacred rules of right, as between man and man! May God speed the coming of that day!

I have already alluded, in the early part of my remarks, to some of the obstacles to be encountered by the advocate of Peace. One of these is the war-like tone of the literature, by which our minds and opinions are formed. The world has supped so full with battles, that all its inner modes of thought, and many of its rules of conduct seem to be incarnadined with blood; as the bones of swine, fed on madder, are said to become red. But I now pass this by, though a most fruitful theme, and hasten to other topics. I propose to consider in succession, very briefly, some of those influences and prejudices, which are most powerful in keeping alive the delusion of war.

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* Juvenal, Sat. XIII, 105. The ancient laws of Ina recognise numbers as the only distinction between an army and a band of robbers; Fures appellamus societatem septem hominum; et septem usque ad XXXV turmam; et deinde esto exercitus.

1. One of the most important of these is the prejudice to a certain extent in its favor founded on the *belief in its necessity*. The consciences of all good men condemn it as a crime, a sin; even the soldier, whose profession it is, confesses that it is to be resorted to only in the last necessity. But a benevolent and omnipotent God cannot render it *necessary* to commit a crime. When war is called a necessity, it is meant, of course, that its object cannot be gained in any other way. Now, I think that it has already appeared with distinctness, approaching demonstration, that the professed object of war, which is justice between nations, is in no respect promoted by war; that force is not justice, nor in any way conducive to justice; that the eagles of victory can be only the emblems of successful force and not of established right.[*] Justice can be obtained only by the exercise of the reason and judgment; but these are silent in the din of arms. Justice is without passion; but war lets loose all the worst passions of our nature, while "high arbiter Chance more embroils the fray." The age has passed in which a nation, within the enchanted circle of civilization, will make war upon its neighbor, for any professed purpose of booty or vengeance. It does "nought in hate, but all in *honor*." There are professions of tenderness even which

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[*] Le recours á la force, soit par le combat judiciaire, soit par la guerre privèe, ètait le mode le plus commun de mettre fin aux proces. *Mais la force n'est pas la justice; les plus grossiers esprits ne les confondent pas long temps.* La nécessité d'un autre systeme judiciaire d'un veritable jugment devint bientôt évidente. *Guizot*, Histoire de la Civilization, Tome IV, 89.

mingle with the first mutterings of the dismal strife. Each of the two Governments, as if conscience-struck at the abyss into which it is about to plunge, seeks to fix on the other the charge of hostile aggression, and to assume to itself the ground of defending some right; some stolen Texas; some distant worthless Oregon. Like Pontius Pilate, it vainly washes its hands of innocent blood, and straightway allows a crime at which the whole Heavens are darkened, and two kindred people are severed, as the veil of the Temple was rent in twain.

The various modes, which have been proposed for the determination of disputes between nations, are Negotiation, Arbitration, Mediation and a Congress of Nations;* all of them practicable and calculated to secure peaceful justice. Let it not be said, then, that war is a *necessity;* and may our country aim at the true glory of taking the lead in the recognition of these, as the only proper modes of determining justice between nations! Such a glory, unlike the earthly fame of battles, shall be immortal as the stars, dropping perpetual light upon the souls of men!

2. Another prejudice in favor of war is founded on *the practice of nations*, past and present. There is no crime or enormity in morals, which may not find the support of human example, often on a most extended scale. But it is not to be urged in our day that we are to look for a standard of duty in the conduct of vain, mistaken, fallible man. It is not in the power of man, by any subtle alchemy, to transmute wrong into right. Because war is according to the practice of the world, it does not follow that it is right. For ages the world worshipped false gods; but these gods were none the less false, because all bowed before them. At this moment the larger portion of mankind are Heathen; but Heathenism is not true. It was once the practice of nations to slaughter prisoners of war; but even the spirit of war recoils now from this bloody sacrifice. In Sparta, theft, instead of being execrated as a crime, was dignified into an art and an

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* For a sketch of the labors and examples which tend to the establishment of a *System of Arbitration*, or a *Congress of Nations*, see Appendix, Note C.

accomplishment, and as such admitted into the system of youthful education; and even this debasing practice, established by local feeling, is enlightened, like war, by an instance of unconquerable firmness, which is a barbaric counterfeit of virtue. The Spartan youth, who allowed the fox concealed under his robe to eat into his heart, is an example of mistaken fortitude, not unlike that which we are asked to admire in the soldier. Other illustrations of this character crowd upon the mind; but I will not dwell upon them. We turn with disgust from Spartan cruelty and the wolves of Taygetus; from the awful cannibalism of the Feejee Islands; from the profane rites of innumerable savages; from the crushing Juggernaut; from the Hindoo widow lighting her funeral pyre; from the Indian dancing at the stake. But had not all these, in their respective places and days, like war, the sanction of established usage?

But it is often said, "let us not be wiser than our fathers." Rather let us try to excel our fathers in wisdom. Let us imitate what in them was good, but let us not bind ourselves, as in the chains of Fate, by their imperfect example. There are principles which are higher than human examples. Examples are to be followed when they accord with the suggestions of duty. But he is unwise and wicked, who attempts to lean upon these, rather than upon those truths, which, like the Everlasting Arm, cannot fail!

In all modesty be it said, we have lived to little purpose, if we are not wiser than the generations that have gone before us. It is the grand distinction of man that he is a progressive being; that his reason at the present day is not merely the reason of a single human being, but that of the whole human race, in all ages from which knowledge has descended, in all lands from which it has been borne away. We are the heirs to an inheritance of knowledge, which has been accumulating from generation to generation. The child is now taught at his mother's knee the orbits of the Heavenly bodies,

> Where worlds on worlds compose one Universe;

the nature of this globe; the character of the tribes of men by which it is covered, and the geography of nations, all of which were far beyond the ken of the most learned of other days. It is, therefore, true, as has been said, that antiquity is the real infancy of man; it is then that he is immature, ignorant, wayward, childish, selfish, finding his chief happiness in pleasures of sense, all unconscious of the higher delights of knowledge and of love. The animal part of his nature reigns over his soul, and he is driven on by the gross impulses of force. He seeks contests, war and blood. But we are advanced from the childhood of man; reason and the kindlier virtues of age, repudiating and abhorring force, now bear sway. We are the true Ancients. The single lock on the battered forehead of Old Time is thinner now than when our fathers attempted to grasp it; the hour-glass has been turned often since; the scythe is heavier laden with the work of death.

Let us cease, then, to look for a lamp to our feet, in the feeble tapers that glimmer in the sepulchres of the Past. Rather let us hail those ever-burning lights above, in whose beams is the brightness of noon-day!

3. There is a topic to which I allude with diffidence; but in the spirit of frankness. It is the influence which war, though condemned by Christ, has derived from the *Christian Church.* When Constantine on one of his marches, at the head of his army, beheld the luminous trophy of the cross in the sky right above the meridian sun, inscribed with these words, *By this conquer*, had his soul been penetrated by the true spirit of Him, whose precious symbol it was, he would have found in it no inspiration to the spear and the sword. He would have received the lesson of self-sacrifice, as from the lips of the Saviour, and would have learned that it was not by earthly weapons that any true victory was to be won. The pride of conquest would have been rebuked, and the bauble sceptre of Empire would have fallen from his hands. *By this conquer;* that is, by patience, suffering, forgiveness of evil, by all those virtues of which the cross is the affecting token, *conquer;* and the victory shall be greater than any in the annals of Roman conquest; it may not find a place in

the records of man; but it shall appear in the register of everlasting life.

The Christian Church, after the first centuries of its existence, failed to discern the peculiar spiritual beauty of the faith which it professed. Like Constantine, it found new incentives to war in the religion of Peace; and such has been its character, let it be said fearlessly, even to our own day. The Pope of Rome, the asserted head of the church, the Vicegerent of Christ on earth, whose seal is a fisherman, on whose banner is a LAMB before the HOLY CROSS, assumed the command of armies, often mingling the thunders of battle with those of the Vatican. The dagger which projected from the sacred vestments of the Archbishop de Retz, as he appeared in the streets of Paris, was called by the people, "the Archbishop's Prayer Book." We read of mitred prelates in armor of proof, and seem still to catch the jingle of the golden spurs of the bishops in the streets of Cologne. The sword of knighthood was consecrated by the church; and priests were often the expert masters in military exercises. I have seen at the gates of the Papal Palace in Rome, a constant guard of Swiss soldiers; I have seen, too, in our own streets a show, as incongruous and as inconsistent, a pastor of a Christian church parading as the chaplain of a military array! Aye! more than this; some of us have heard, within a few short weeks, in a Christian pulpit, from the lips of an eminent Christian divine, a sermon in which we are encouraged to *serve the God of Battles,* and, as citizen soldiers, to fight for Peace;*† a sentiment, which can find no support in the religion of Him who has expressly enjoined, when one cheek is smitten to turn the other, and to which we listen with pain and mortification from the lips of one, who has voluntarily become a minister of Christian truth; alas! in his mind, inferior to that of the Heathen, who declared that he *preferred the unjustest peace to the justest war.**

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* Deo imperante, *quem adesse bellantibus credunt*, are the appropriate words of astonishment by which Tacitus describes the barbarous superstition of the ancient Germans.—*De Moribus*, *Germ.* § 7. It was afterwards on the German soil, that Frederick of Prussia said that he always found the God of Battles to be on the side of the strongest regiments. When it was proposed to him to adopt as an inscription for his banner, that was soon to flout the sky of Silesia, "For God and Country," he rejected the first words—saying it was not proper to introduce the name of the Deity in the quarrels of men.

† Lord Abington said, May 30th, 1794, in the House of Lords; "*The best road to Peace, my Lords, is War;* and War carried on in the same manner in which we are taught to worship our Creator, namely, with all our souls, with all our minds, with all our hearts, and with all our strength!"

And who is the God of Battles? It is Mars; man-slaying, blood-polluted, city-smiting Mars!† Him we cannot adore. It is not He who binds the sweet influences of the Pleiades, and looses the bands of Orion; who causes the sun to shine on the just and the unjust; who tempers the wind to the shorn lamb; who distils the oil of gladness upon every upright human heart; the fountain of Mercy and Goodness, the God of Justice and Love. The God of Battles is not the God of Christians; to him can ascend none of the prayers of Christian thanksgiving; for him there can be no words of worship in Christian temples; no swelling anthem to peal the note of praise.

There is now floating in this harbor a ship of the line of our country. Many of you have, perhaps, pressed its deck, and observed with admiration the completeness which prevails in all its parts; its lithe masts and complex net-work of ropes; its thick wooden walls, within which are more than the soldiers of Ulysses; its strong defences, and its numerous dread and rude-throated engines of war. There each Sabbath, amidst this armament of blood, while the wave comes gently plashing against the frowning sides, from a pulpit supported by a cannon, or by the side of a cannon, in repose now, but ready to awake its dormant thunder, charged with death, a

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* *Iniquissimam pacem, justissimo bello antefero* are the words of Cicero. Only eight days after Franklin had placed his name to the Treaty of Peace. which acknowledged the Independence of his country, he wrote to a friend; "may we never see another war, for, in my opinion, there never was a good war, nor a bad peace." It was with great reluctance, that I here seemed to depart for a moment from so great a theme to allude to any person; but the person and the theme here become united. I cannot refrain from the effort to tear this iron branch of War from the golden tree of Christian truth, even though a voice came forth from the breaking bough. For a few observations on Dr. Vinton's Sermon, see Appendix, notes A. and B.

† *Ἆρες, Ἄρες, βροτολοιγὲ, μιαιφόνε, τειχεσιπλῆτα.* *Ili.* V. 31.

Christian preacher addresses the officers and crew! May his instructions carry strength and succor to their souls! But he cannot pronounce in such a place, those highest words of the Master he professes, "Blessed are the Peace-makers;" "Love your Enemies; "Render not evil for evil." Like Macbeth's "Amen," they must stick in his throat.

It cannot be doubted that this strange and unblessed conjunction of the clergy with war, has had no little influence in blinding the world to the truth now beginning to be recognized, that *Christianity forbids war in all cases.*

Individual interests are mixed up with prevailing errors, and are concerned in maintaining them to such an extent, that it is not surprising that military men yield reluctantly to this truth. They are naturally in this matter, like lawyers, according to Voltaire, "the conservators of ancient barbarous usages;" but that these usages should obtain countenance in the Christian church is one of those anomalies, which make us feel the weakness of our nature and the elevation of Christian truth. It is important to observe, as an unanswerable fact of history, that for some time after the Apostles, while the lamp of Christianity burnt pure and bright, not only the Fathers of the church held it unlawful for Christians to bear arms, but those who came within its pale, abstained from the use of arms, although at the cost of their lives. Marcellus the Centurion, threw down his military belt at the head of the legion, and in the face of the standards declared with a loud voice, *that he would no longer serve in the army, for he had become a Christian;* and many others followed his example. It was not until Christianity became corrupted, that its followers became soldiers, and its priests learned to minister at the altar of the God of Battles.*

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* This subject, so interesting to the student of history, and to the conscientious inquirer into the true signification of the Gospel, has been treated with fulness and learning by Mr. Clarkson in his *Essay on the Doctrines and Practice of the Early Christians as they relate to war.* Mr. Jay, in his recent address before the Peace Society, justly charges the Christian Church "with awful delinquencies on the subject of war, and directs the attention of her members to the duty of repentance and reformation." He sustains the charge by numerous illustrations of the conduct of the clergy, through a succession of

Thee to defend the Moloch priest prefers
The prayer of Hate, and bellows to the herd
That Deity, accomplice Deity,
In the fierce jealousy of waked wrath
Will go forth with our armies and our fleets
To scatter the red ruin on their foes!
O blasphemy! to mingle fiendish deeds
With blessedness![*]

A motion has been brought forward in Congress, to dispense with the services of chaplains in the army and navy, mainly on account of the incompatibility between the principles of the Gospel and the practice of War. It is to be hoped that what God has placed so far asunder, may no longer be joined together by man. If chaplains are to be employed, it should be to preach the religion they profess as to the Heathen, and not to offer incense to the idol of war.

When will Christian ministers look for their faith, not to the ideas, opinions and practices of the people by whom they are surrounded, but to the written words of the texts from which they preach? It has been said of a monarch of England that he "read Gospel truth in Anna Boleyn's eyes." Not less hyperbolical and impossible is their discernment who can find in the flashing bayonet, any token of Peace, any illumination of Christian Love. That truly great man, the beloved Channing, whose spirit speaks to us from no sceptered urn, but from his sweet grassy bed at Mount Auburn, says: "When I think of the spirit of duelling and war in the Christian world, and then of the superiority to the world and the unbounded love and forbearance which characterize our religion, I am struck with the little progress which Christianity has as yet made."

One of the beautiful pictures, adorning the dome of a Church in Rome, by that master of art, whose immortal colors breathe as with the voice of a Poet, the Divine Raffaelle, represents Mars, in the attitude of war, with a drawn

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ages, but particularly in our own day. He finds the English Episcopal Church peculiarly reprehensible; and his testimony on this point is of special authority from his known eminence as a lay member of the sister Church in the United States.

[*] Religious Musings by Coleridge, written Christmas Eve of 1794.

sword uplifted and ready to strike, while an unarmed Angel from behind, with gentle but irresistible force, arrests and holds the descending arm. Such is the true image of Christian duty; nor can I readily perceive the difference in principle between those ministers of the Gospel, who themselves gird on the sword, as in the olden time, and those others, who, unarmed, and in customary suit of solemn black, lend the sanction of their presence to the martial array, or to any form of preparation for war. The drummer, who pleaded that he did not fight, was held more responsible for the battle than the mere soldier; for it was the sound of his drum that inflamed the flagging courage of the troops.

4. From the prejudices engendered by the Church, I pass to the prejudices engendered by the army itself; prejudices having their immediate origin more particularly in military life, but unfortunately diffusing themselves, in widening though less apparent circles, throughout the community. I allude directly to what is called the *point of honor*, early child of chivalry, the living representative in our day of an age of barbarism. It is difficult to define what is so evanescent, so impalpable, so chimerical, so unreal; and yet which exercises such power over many men, and controls the relations of states. As a little water, which has fallen into the crevice of a rock, under the congelation of winter, swells till it burst the thick and stony fibres; so a word, or a slender act, dropping into the heart of man, under the hardening influence of this pernicious sentiment, dilates till it rends in pieces the sacred depository of human affections, while Hate and the demon Strife, no longer restrained, are let loose abroad. The musing Hamlet saw the strange and unnatural power of this sentiment, when his soul pictured to his contemplations

——the army of such mass and charge,
Led by a delicate and tender prince
Exposing what is mortal and unsure
To all that fortune, death and danger, dare
Even for an egg-shell;

and when he says, with a point which has given to this sentiment its strongest and most popular expression,

——Rightly to be great
Is not to stir without great argument;
But greatly to find quarrel in a straw
When honor 's at the stake.

And when is honor at stake? This question opens again the views with which I commenced, and with which I hope to close this discourse. Honor can only be at stake, where justice and happiness are at stake; it can never depend on an egg-shell, or a straw; it can never depend on an impotent word of anger or folly, not even if that word be followed by a blow. In fine, true honor is to be found in the highest moral and intellectual excellence, in the dignity of the human soul, in its nearest approach to those qualities which we reverence as the attributes of God. Our community frowns with indignation upon the profaneness of the duel, which has its rise in this irrational point of honor. But are they aware that they themselves indulge the sentiment, on a gigantic scale, when they recognise what is called the *honor* of the country, as a proper ground for war? We have already seen that justice is in no respect promoted by war? Is true honor promoted where justice is not?

But the very word honor, as used by the world, does not express any elevated sentiment. How infinitely below the sentiment of duty! It is a word of easy virtue, that has been prostituted to the most opposite characters and transactions. From the field of Pavia, where France suffered one of the greatest reverses in her annals, Francis writes to his mother; "all is lost except *honor*." At a later day, the renowned cook, the grand Vatel, in a paroxysm of grief and mortification at the failure of two dishes expected on the table, exclaimed, "I have lost my *honor*."* Montesquieu, whose

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* Accablé d'embarras, Vatel est averti
Que deux tables en vain réclamaient leur roti;
Il prend pour en trouver une peine inutile.
"Ah!" dit-il, s'adressant a son ami Gourville,
De larmes, de sanglots, de douleur suffoqué,
"*Je suis perdu d'honneur, deux rotis ont manqués!*"
Berchoux.

This scene is also described, with the accustomed coldness and brilliancy of her fashionable pen, by Madame de Sévigné, (Lettres L and LI, Tom. I. p. 164, writings are a constellation of epigrams, places it in direct contrast with virtue. He represents what he calls the prejudice of honor as the animating principle of monarchy, while virtue is that of a republic, saying that in well governed monarchies almost every body will be a good citizen, but it will be rare to meet with a really good man.* By an instinct that points to the truth, we do not apply this term to the high columnar virtues which sustain and decorate life, to parental affection, to justice, to the attributes of God. We do not speak of an honorable father, an honorable mother, an honorable judge, an honorable angel, an honorable God. In such sacred connections we feel, beyond the force of any argument, the vulgar and debasing character of the sentiment to which it refers.

The degrading rule of honor is founded in the supposed necessity of resenting, by force, a supposed injury, whether by word or act.† But suppose such an injury is received,

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168.) In the same place she recounts the death of this culinary martyr. Disappointed by the failure of the purveyors to arrive with the turbots for an entertainment in proper season, he withdrew to his chamber, where he placed his sword against the door, and stabbed himself to the heart, but it was not until the third blow, after giving himself two not mortal, that he fell dead. "The fish now arrives from all quarters, they seek Vatel to distribute it; they go to his room, they knock, they force open the door; he is found bathed in blood. They hasten to tell the Prince, [the *great* Condé] who is in despair; the Duke wept; it was on Vatel that his journey from Burgundy hinged. The Prince related what had passed to the King, with marks of the deepest sorrow. *It was attributed to the high sense of honor which he had after his own way* (ou dit que c'etoit a force d'avoir de l'honneur a sa maniére.) He was highly commended; his courage was praised and blamed at the same time." The Epistle Dedicatory prefixed to the concluding volume of the *Almanac des Gourmands*, addressing the shade of Vatel, says; "So noble a death secures you, venerable shade, the most glorious immortality! You have proved that *the fanaticism of honor* can exist in the kitchen as well as the camp, and that the spit and sauce-pan have also their Cato's and their Deciuses." "Enfin," are the words of a French Vaudeville, "Manette, voila ce que c'etoit que Madame de Sévigné, et Vatel, ce sont les gens la qui ont *honoré* le siecle de Louis Quatorze." See London Quarterly Rev. Vol. 54. p. 122.

* Montesquieu, Esprit des Lois, Liv. 3 cap. 5, 6, 7.

† *Don Pedre.* Souhaitez-vous quelque chose de moi?

Hali. Oui, un conseil, sur *un fait d'honneur.* Je sais qu'en ces matieres il est mal-aise de trouver un cavalier plus consommé que vous.

Seigneur, *j'ai recu un soufflet.* Vous savez ce qu'est un soufflet, lorsqu'il se sullying, as is falsely imagined, the character, is it wiped away by a resort to force, by descending to the brutal level of its author? "Could I have wiped your blood from my sword as easily as I can this insult from my face," said a Marshal of France, greater on this occasion than on any field of fame, "I would have laid you dead at my feet." It is Plato, reporting the angelic wisdom of Socrates, who declares in one of those beautiful dialogues, which shine with stellar light across the ages, that *it is more shameful to do a wrong than to receive a wrong.** And this benign sentiment commends itself, alike to the Christian, who is told to render good for evil, and to the universal heart of man. But who that confesses its truth, can vindicate a resort to force, for the sake of honor? Better far to receive the blow that a false morality has thought degrading, than that it should be revenged by force. Better that a nation should submit to what is wrong, rather than vainly seek to maintain its honor by the great crime of war.

It seems that in ancient Athens, as in unchristianized Christian lands, there were sophists, who urged that *to suffer* was unbecoming a man, and would draw down upon him incalculable evils. The following passage will show the manner in which the moral cowardice of these persons of little faith was rebuked by him, whom the Gods pronounced wisest of men: "These things being so, let us inquire what it is you reproach me with; whether it is well said, or not, that I, forsooth, am not able to assist either myself, or any of my friends or my relations, or to save them from the greatest dangers; but that, like the outlaws, I am at the mercy of any one, who may choose to smite me on the temple—and this was the strong point in your argument—or to take away my property, or to drive me out of the city, or, (to take the extreme

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donne à main ouverte sur le beau milieu de la joue. *J'ai ce soufflet fort sur le coeur; et je suis dans l'incertitude si, pour me venger de l'affront, je dois me battre avec mon homme, ou bien le faire assassiner.*

Don Pedre. Assassiner c'est le plus sur et le plus court chemin.—*Moliere, Le Sicilien*, Sc. 13.

* This proposition is enforced by Socrates with admirable and unanswerable reasoning and illustration, throughout the whole of the Gorgias.

case) to kill me; now, according to your argument, to be so situated is the most shameful thing of all. But my view is—a view many times expressed already, but there is no objection to its being stated again:—*my view, I say, is, O Callicles, that to be struck unjustly on the temple is not most shameful, nor to have my body mutilated nor my purse cut; but to strike me and mine unjustly, and to mutilate me and to cut my purse is more shameful and worse; and stealing too, and enslaving, and housebreaking, and in general, doing any wrong whatever to me and mine is more shameful and worse for him who does the wrong, than for me who suffer it.* These things, thus established in the former arguments, as I maintain, are secured and bound, even if the expression be somewhat too rustical, with iron and adamantine arguments, and unless you, or some one more vigorous than you can break them, it is impossible for any one, speaking otherwise than I now speak, to speak well: since, for my part, *I always have the same thing to say, that I know not how these things are, but that of all whom I have ever discoursed with as now, not one is able to say otherwise without being ridiculous.*" Such is the wisdom of Socrates.*

But the modern point of honor does not find a place in warlike antiquity. Themistocles at Salamis did not send a cartel to the Spartan commander, when threatened by a blow. "Strike, but hear," was the response of that firm nature, which felt that true honor was to be gained only in the performance of duty. It was in the depths of modern barbarism, in the age of chivalry, that this sentiment shot up in the wildest and most exuberant fancies; not a step was taken without reference to it; no act was done which had not some point tending to "the bewitching duel," and every stage in the combat, from the ceremonies of its beginning to its deadly close, were measured by this fantastic law.* The Chevalier Bayard, the cynosure of chivalry, the knight without fear and without reproach, in a contest with the Spaniard Don Alonzo de Soto Mayor, by a feint struck him such a blow in the throat, that despite the gorget, the weapon penetrated four fingers deep. The wounded Spaniard grasped his adversary, and, struggling with him, they both rolled on the ground, when Bayard, drawing his dagger, and thrusting its point in the nostrils of the Spaniard, exclaimed, "Senor Alonzo, surrender, or you are a dead man!" A speech which appeared superfluous, as Don Diego de Guignones, his second, exclaimed, "Senor Bayard, he is dead; you have conquered." Bayard, says the chronicler, would have given one hundred thousand crowns to spare his life: but, he now fell upon his knees, kissed the ground three times and then dragged his dead enemy out of the camp, saying to the second of his fallen foe, "Senor Don Diego, have I done enough?" To which the other piteously replied, "too much, Senor, for the *honor* of Spain!" when Bayard very generously presented him with the corpse, although it was his right, by the laws of *honor*, to do whatever he thought proper with it; an act which is highly commended by Brantome, who thinks it difficult to say which did him most *honor*—not having ignominiously dragged the body like the carcase of a dog by a leg out of the field, or having condescended to fight while laboring under an ague!†

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* Gorgias, Cap. LXIV. It appears that Cicero read the Gorgias diligently at Athens; but his admiration was bestowed chiefly upon its distinguished rhetorical excellence. (De Oratore, I. 11.) If his soul had been penetrated by its sublime morality, he could never have written; Fortes igitur et magnanimi sunt habendi, non, qui faciunt, *sed qui propulsant injuriam.* De offic. Lib. I. cap. 19. This is an instance of the fickle eclectic philosophy of the great Roman, which renders his writings so uncertain a rule of conduct.

If such a transaction conferred honor on the brightest son of chivalry, we may understand therefrom something of the real character of that age, the departure of which has been lamented with such touching but inappropriate eloquence. Do not condescend to draw a great rule of conduct from such a period. Let the point of honor stay with the daggers, the swords and the weapons of combat, by which it was guarded ; let it appear only with its inseparable companions, the bowie-knife, and the pistol !

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* Nobody can forget the humorous picture of the progress of a quarrel to a duel, through the seven degrees of Touchstone in *As You Like It.* Act 5, Scene 4.

† Millingen on Duels, I. 81, 82.

Be ours a standard of conduct derived, not from the degradation of our nature, though it affects the semblance of sensibility and refinement, but having its sources in the loftiest attributes of man, in truth, in justice, in duty ; and may this standard, which governs our relations to each other, be recognized among the nations ! When shall we behold the dawning of that happy day, harbinger of infinite happiness beyond, in which nations shall feel that it is better to receive a wrong than to do a wrong.

Apply this principle to our relations with England at this moment. Suppose that proud monarchy, refusing all submission to negotiation or arbitration, should absorb the whole Territory of Oregon into her own overgrown dominions, and add, at the mouth of the Columbia River, a new morning drum-beat to the national airs with which she has encircled the earth, who, then, is in the attitude of the truest honor, England, who has appropriated, by an unjust act, what is not her own, or the United States, the victim of the injustice ?*

5. There is still another influence which stimulates war, and interferes with the natural attractions of Peace ; I refer to a selfish and exaggerated *love of country*, leading to its physical aggrandizement, and the strengthening of its institutions at the expense of other countries. Our minds nursed by the literature of antiquity, have imbibed the narrow sentiment of Heathen patriotism.† Exclusive love for the land of birth

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* If this view needs any confirmation in the minds of just and reasonable men, having a true regard for the happiness and real greatness of their country, it may be found in the clear and weighty reasoning of President Wayland on War, in his *Elements of Morals*, which is in such harmony with the great truths sustained throughout this Oration that I have taken the liberty to transfer some pages of it to the Appendix, Note E.

† The legislation of Rome, which has exercised such an influence over mankind, was inspired by selfishness. Self was at the foundation of all rights. Property was held under rigorous and exclusive laws, which knew nothing of the spirit of accommodation, or of good neighborhood. There were no common partition walls ; but houses stood apart, (*insulæ*) to avoid all contact which could be only hostile. In domestic life, the head of the family, *pater familias*, was a despot. He held for a long time, the right of life and death

was a part of the religion of Greece and Rome. It is an indication of the lowness of their moral nature, that this sentiment was so exclusive, and so material in its character, The Oracle directed the returning Roman to kiss his mother, and he kissed the Mother Earth. Agamemnon, on regaining his home after a perilous separation of more than ten years at the siege of Troy, before addressing his family, his friends, his countrymen, first salutes Argos ;

> By your leave, Lords, first Argos I salute.*

The school-boy cannot forget the cry of the victim of Verres, which was to stay the descending fasces of the lictor, "I am a Roman citizen ;" nor those other words sounding in the dark Past, "How sweet it is to die for one's country !" The Christian cry did not rise, "I am a man ;" the Christian ejaculation did not swell the soul, "How sweet it is to die for duty !" The beautiful genius of Cicero, at times instinct with truth almost divine, did not ascend to that highest heaven, where is taught, that all mankind are neighbors and kindred, and that the relations of fellow-countryman are less holy than those of fellow-man. To the love of universal man may be applied those words by which the great Roman elevated his selfish Patriotism to a virtue, when he said that *country alone embraced all the charities of all.*† Attach this admired

over his wife and children ; having no obligations towards them, but only rights over them. This great power was not given for the benefit of the children ; securing to them a guardian in their immature years, but selfishly, unnaturally, for the exclusive benefit of the father, to whom belonged all the acquisitions of the son. We may well suspect any principle of duty, public or private, which has its rise in fountains so strongly impregnated with the iron of the soil. For an interesting view of the true character of the Roman Law, see Kleimrath, Travaux sur l'Histoire de droit Français, Tom. 1, 39.

[*] Agamemnon of Æschylus; translated by Symmons p. 73. Cato in a didactic work, says to the farmer on his return home, *primum Larem salutato.*

[†] Sed quum omnia ratione, animoque lustraris, omnium societatum nulla est gravior, nulla carior, quam ea, quæ cum republica est unicuique nostrum. Cari sunt parentes, cari liber, propinqui, familiares ; sed omnes omnium caritates patria una complexa est ; pro qua quis bonus dubitet mortem oppetere, si ei sit profuturus ? De Offic. Lib. I, Cap. 17, § 57. It is curious to observe how Cicero puts aside that expression of true Humanity, which fell from Terence, *humani nihil a me alienum puto.* He says : Est enim difficilis cura rerum

phrase for a moment to the single idea of country, and you will see how contracted are its charities compared with the world-wide circle of Christian love, whose neighbor is the suffering man, though at the farthest pole. Such a sentiment would dry up those fountains of benevolence, which now diffuse themselves in precious waters in distant unenlightened lands, bearing the blessings of truth to the icy mountains of Greenland, and the coral islands of the Pacific sea.

It has been a part of the policy of rulers, to encourage this exclusive patriotism; and the people of modern times have each inherited the feeling of Antiquity. I do not know that any one nation is in a condition to reproach the other with this patriotic selfishness. All are selfish. Among us, the sentiment has become active, while it has derived new force from the point with which it has been expressed. An officer of our Navy, one of the so called heroes nurtured by war, whose name has been praised in Churches, has gone beyond all Greek, all Roman example. "Our country, *be she right or wrong*," was his exclamation; a sentiment dethroning God and enthroning the Devil, whose flagitious character should be rebuked by every honest heart.* "Our

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alienarum. De Offi. Lib. 1, cap. 9. Since the delivery of this Oration I have met the following opportune testimony to the truth of the text, in the journals and opinions of the late Blanco White, one of the most ingenuous and conscientious characters of the age. "Would you have a clear, practical conception of Virtue? Study the early, the mythic history of Rome, and try to sympathise with her heroes—those men who lived only for the State; who appear to have lost their own personality, and to have identified themselves with the republic. Having done this, reflect upon the incompleteness, and (we may well say, absurdity) of limiting our moral relations to any portion of the whole mass of mankind, and embrace the immovable conviction, on this point, that every individual man belongs to the whole race, or more properly speaking to the Universe, more truly than Roman patriots conceived themselves to belong to the State. And now you will have obtained the true idea of *national* real virtue, if you conceive your duties to God and his creation to be exactly analogous to those of those ancient Heroes." Blanco White's Journals and Correspondence, Vol. II. pp. 199, 300, 301.

* Unlike this is what has been said of the virtuous Andrew Fletcher, in the days of the English Revolution of 1688, who "would lose his life to *serve* his country, but would not do a base thing to *save* it."—Mackintosh Eth. Philosophy.

country, our whole country, and *nothing but our country*," are other words, which have often been painted on banners, and echoed by the voices of innumerable multitudes. Cold and dreary, narrow and selfish would be this life, if *nothing but our country* occupied our souls; if the thoughts that wander through eternity, if the infinite affections of our nature, were restrained to that spot of earth, where we have been placed by the accident of birth.

I do not inculcate an indifference to country. We incline, by a natural sentiment, to the spot where we were born, to the fields, which witnessed the sports of childhood, to the seat of youthful studies, and to the institutions under which we have been trained. The finger of God writes in indelible colors all these things upon the heart of man, so that in the dread extremities of death, he reverts in fondness to early associations, and longs for a draught of cold water from the bucket in his father's well. This sentiment is independent of reflection, for it begins before reflection, grows with our growth, and strengthens with our strength. It is blind in its nature; and it is the duty of each of us to take care that it does not absorb the whole character.* In the moral night, which has enveloped the world, each nation thus far, has lived ignorant and careless to much extent of the interests of others, which it imperfectly saw; but this thick darkness has now been scattered, and we begin to discern, all gilded by the beams of morning, the distant mountain-peaks of other lands. We find that God has not placed us on this earth alone; that there are other nations, equally with us, children of His Protecting Care.

The curious spirit goes further, and while it recognizes an inborn sentiment of attachment to the place of birth, inquires into the nature of the allegiance, which is due to the State. The old idea, still too much received, is that man is made for the State, and not the State for man. Far otherwise is the truth. The State is an artificial body intended for the security of the people. How constantly do we find, in human history, that the people have been sacrificed for the State; to build the Roman name, to secure to England the trident of the sea. This is to sacrifice the greater for the less; for the fleeting possessions of earth to barter the immortal soul. Let it be remembered that the State is not worth preserving at the cost of the lives and happiness of the people.

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* "When any natural propensity is consecrated into a virtue, the greatest evils ensue. *Patriotism* is an instance of this. We are naturally led to give undue importance to ourselves; this, when the individual is clearly the object of his own feeling, is called *selfishness*. But when under the name of patriotism, each individual indulges himself in vanity, in pride, in ambition, in cruelty—and yet does it as an Englishman, a Frenchman, as a Spaniard, [he might have added as an American]—all these vices are reckoned virtues."—Life of Blanco White, vol. II. p. 6.

It is not that I love country less, but Humanity more, that now, on this National Anniversary, I plead the cause of a higher and truer patriotism. Remember that you are men, by a more sacred bond than you are citizens; that you are children of a common Father more than you are Americans.

Viewing, then, the different people on the globe, as all deriving their blood from a common source, and separated, only by the accident of mountains, rivers and seas, into those distinctions, around which cluster the associations of country, we must regard all the children of the earth as members of the great human family. Discord in this family, is treason to God; while all war is nothing else than *civil* war. It will be in vain that we restrain this odious term, imparting so much of horror, to the petty dissentions of a single State. It belongs as justly to the feuds between nations; since we are all kindred. The soul stands aghast, as we contemplate fields drenched in fraternal gore, where the happiness of homes and friends has been shivered by the unfriendly arms of neighbors, and where kinsmen have sunk beneath the cold steel that was nerved by a kinsman's hand. This is civil war, which stands forever accursed in the calendar of Time. But the Muse of History, in the faithful record of the future transactions of nations, inspired by a new and loftier justice, and touched to finer sensibilities, shall extend to the general sorrows of Universal Man, the sympathy which has been profusely shed for the selfish sorrow of country, and shall pronounce *all war to be civil war, and the partakers in it as traitors to God and enemies to man.*

6. I might here pause, feeling that those of my hearers who have kindly accompanied me to this stage, would be ready to join in the condemnation of war, and hail Peace, as the only condition becoming the dignity of human nature, and in which true greatness can be achieved. But there is still one more consideration, which yields to none of the others in importance; perhaps it is more important than all. It is at once cause and effect; the cause of much of the feeling in favor of war, and the effect of this feeling. I refer to the costly *preparations* for war, in time of peace.

I do not propose to dwell upon the immense cost of war itself. That will be present to the minds of all in the mountainous accumulations of debt, piled like Pelion upon Ossa, with which Europe is pressed to the earth. According to the most recent tables to which I have had access, the public debt of the different European States, so far as it is known, amounts to the terrific sum of $6,387,000,000, all of this the growth of War! It is said that there are throughout these states, 17,900,000 paupers, or persons subsisting at the expense of the country, without contributing to its resources. If these millions of the public debt, forming only a part of what has been wasted in war, could be apportioned among these poor, it would give to each of them $375, a sum which would place all above want, and which is about equal to the average value of the property of each inhabitant of Massachusetts.

The public debt of Great Britain amounted in 1839 to $4,265,000,000, all of this the growth of War since 1688! This amount is about equal to the sum-total, according to the calculations of Humbolt, of all the treasures which have been reaped from the harvest of gold and silver in the mines of Spanish America, including Mexico and Peru, since the first discovery of our Hemisphere by Christopher Columbus! It is much larger than the amount of all the precious metals, which at this moment, form the circulating medium of the world! It is said rashly by some persons, who have given little attention to this subject, that all this expenditure was good for the people; but these persons do not bear in mind that it was not bestowed on any *useful* object. It was wasted. The aggregate capital of all the joint stock companies in England, of which there was any known record in 1842, embracing canals, docks, bridges, insurance companies, banks, gas-lights, water, mines, railways, and other miscellanous objects, was about $835,000,000; a sum which has been devoted to the welfare of the people, but how infinitely less in amount than the War Debt! For the six years ending in 1836, the average payment for the interest on this debt was about $140,000,000 annually. If we add to this sum, $60,000,000 during this same period paid annually to the army, navy and ordnance, we shall have $200,000,000, as the annual tax of the English people, to pay for former wars and to prepare for new. During this same period there was an annual appropriation of only $20,000,000 for all the civil purposes of the government. It thus appears that *War* absorbed ninety cents of every dollar that was pressed by heavy taxation from the English people, who almost seem to sweat blood! What fabulous monster, or Chimera dire, ever raged with a maw so ravenous! The remaining ten cents sufficed to maintain the splendor of the throne, the administration of justice, and the diplomatic relations with foreign powers, in short all the proper objects of a Christian State.*

Let us now look exclusively at the *preparations for war in time of peace.* It is one of the miseries of war that, even in peace, its evils continue to be felt by the world, beyond any other evils by which poor suffering humanity is oppressed. If Bellona withdraws from the field, we only lose the sight of her flaming torches; the bay of her dogs is heard on the mountains, and civilized man thinks to find protection from their sudden fury, only by enclosing himself in the defences of war. At this moment the Christian nations, worshipping a symbol of common brotherhood, live as in entrenched camps, in which they keep armed watch, to prevent surprise from each other.

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* I have here relied upon McCulloch's Commercial Dictionary; The Edinburgh Geography, founded on the works of Malte Brun and Balbi; and the calculations of Mr. Jay in *Peace and War*, p. 16, and in his Address before the Peace Society, pp. 28, 29.

It is difficult, if not impossible, to arrive at any exact estimate of the cost of these preparations, ranging under four different heads; the standing army; the navy; the fortifications, and ordnance; and the militia or irregular troops.

The number of soldiers now keeping the Peace of European Christendom, as a *standing army*, without counting the Navy, is upwards of two millions. Some estimates place it as high as three millions.* The army of Great Britain exceeds 300,000 men; that of France 350,000; that of Russia 730,000, and is reckoned by some as high as 1,000,000; that of Austria about 275,000; that of Prussia 150,000. Taking the smaller number, suppose these two millions to require for their annual support an average sum of only $150 each, the result would be $300,000,000, for their sustenance alone; and reckoning one officer to ten soldiers, and allowing to each of the latter an English shilling a day, or $87 a year, for wages, and to the former an average salary of $500 a year, we should have for the pay of the whole no less than $256,000,000, or an appalling sum total for both sustenance and pay of $556,000,000. If the same calculation be made, supposing the forces to amount to three millions, the sum total will be $835,000,000! But to this enormous sum another still more enormous must be added on account of the loss sustained by the withdrawal of two millions of hardy, healthy men, in the bloom of life, from useful, productive labor. It has been supposed that it costs an average of $500 to rear a soldier; and that the value of his labor if devoted to useful objects would be

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* I have here relied upon the Edinburgh Geography, founded on the works of Malte Brun and Balbi, which makes the standing army of the European Powers upwards of two millions. The tract on the *Waste of Property by War*, which illustrates this subject by many important statistics, makes it upwards of three millions. The annual expense of supporting a soldier differs in different countries. In Austria it is about $130; in France $146; in Prussia nearly $200, and in England still greater.

$150 a year. The Christian Powers, therefore, in setting apart two millions of men as soldiers, sustain a loss of $1,000,000,000 on account of their training; and $300,000,000 annually, on account of their labor. So much for the cost of the standing army of European Christendom in time of Peace.

Glance now at the *Navy* of European Christendom. The Royal Navy of Great Britain consists at present, of 556 ships of all classes; but deducting such as are used as convict ships, floating chapels, coal depots, the efficient navy consists of 88 sail of the line; 109 frigates; 190 small frigates, corvettes, brigs and cutters, including packets; 65 steamers of various sizes; 3 troop-ships; and yachts; in all 455 ships. Of these there were in commission in July, 1839, 190 ships, carrying in all 4,202 guns. The number of hands employed in 1839, was 34,465. The Navy of France, though not comparable in size with that of England, is of vast force. By royal ordinance of 1st January, 1837, it was fixed in time of peace at 40 ships of the line, 50 frigates, 40 steamers, and 190 smaller vessels; and the amount of crews in 1839, was 20,317 men. The Russian Navy consists of two large fleets in the Gulf of Finland and the Black Sea; but the exact amount of their force and their available resources has been a subject of dispute amongst naval men and politicians. Some idea may be formed of the size of the navy from the number of hands employed. The crews of the Baltic fleet amounted in 1837, to not less than 30,800 men; and those of the fleet in the Black sea to 19,800, or altogether 50,600. The Austrian Navy consisted in 1837, of 8 ships of the line, 8 frigates, 4 sloops, 6 brigs, 7 schooners or galleys, and a number of smaller vessels; the number of men in its service in 1839, was 4,547. The Navy of Denmark consisted at the close of 1837 of 7 ships of the line, 7 frigates, 5 sloops, 6 brigs, 3 schooners, 5 cutters, 58 gun-boats, 6 gun-rafts, and 3 bomb vessels, requiring about 6,500 men to man them. The Navy of Sweden and Norway consisted recently of 238 gun-boats, 11 ships of the line, 8 frigates, 4 corvettes, 6 brigs, with several smaller vessels. The Navy of Greece consists of 32 ships of war, carrying 190 guns, and 2,400 men. The Navy of Holland in 1839 consisted of eight ships of the line, 21 frigates, 15 corvettes, 21 brigs, and 95 gun-boats.* It is impossible to give any accurate idea of the immense cost of all these mighty preparations for war. It is melancholy to contemplate such gigantic means, applied by European Christendom to the erection of these superfluous wooden walls in time of Peace!

In the *fortifications and arsenals* of Europe, crowning every height, commanding every valley, and frowning over every plain and every sea, wealth has been sunk which is beyond calculation. Who can tell the immense sums that have been expended in hollowing out, for the purposes of defence, the living rock of Gibraltar? Who can calculate the cost of all the preparations at Woolwich, its 27,000 cannons, and its hundreds of thousands of small arms? France alone contains upwards of one hundred and twenty-fortified places. And it is supposed that the yet unfinished fortifications of Paris have cost upwards of *fifty millions of dollars!*

The cost of the *militia* or irregular troops, the Yeomanry of England, the National Guard of Paris, and the *Landwehr* and *Landsturm* of Prussia, must add other incalculable sums to these enormous amounts.

Turn now to the *United States*, separated by a broad ocean from immediate contact with the great powers of Christendom, bound by treaties of amity and commerce with all the nations of the earth; connected with all by the strong ties of mutual interest; and professing a devotion to the principles of Peace. Are the Treaties of Amity mere words? Are the relations of commerce and mutual interest mere things of a day? are the professions of Peace vain? Else why not repose in quiet unvexed by preparations for war.

Enormous as are the expenses of this character in Europe, those in our country are still greater in proportion to the other expenditures of the Federal Government.

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* I have drawn these details from the Edinburgh Geography; and from McCulloch's Dictionary of Geography.

It appears that the average expenditures of the Federal Government for the six years ending with 1840, exclusive of payments on account of debt, were $26,474,892; of this sum, the average appropriation each year for military and naval purposes amounted to $21,328,903, being eighty per cent. of the whole amount! Yes; of all the income which was received by the Federal Government, eighty cents in every dollar was applied in this useless way. The remaining ten cents sufficed to maintain the Government, the administration of justice, our relations with foreign nations, the light-houses which shed their cheerful signals over the rough waves which beat upon our long and indented coast, from the Bay of Fundy to the mouth of the Mississippi. Let us observe the relative expenditures of the United States, in the scale of the nations, for military preparations, in time of Peace, exclusive of payments on account of the debts. These expenditures are in proportion to the whole expenditure of Government;

In Austria, as 33 per cent.,
In France, as 38 per cent.,
In Prussia, as 44 per cent.,
In Great Britain, as 74 per cent.,
In the UNITED STATES, as 80 per cent.!*

To these superfluous expenditures of the Federal Government, are to be added the still larger and equally superfluous expenses of the militia throughout the country, which have been placed at $50,000,000 a year!†

By a table‡ of the expenditures of the United States, exclusive of payments on account of the Public Debt, it appears, that, in the fifty-three years from the formation of our present Government, in 1789 down to 1843, there have been $246,620,055 spent for civil purposes, comprehending the expenses of the executive, the legislative, the judiciary, the post office, light houses, and intercourse with foreign governments.

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* I have verified these results by the tables of expenditures of these different nations, but I do little more than follow Mr. Jay, who has illustrated this important point with his accustomed accuracy. *Address*, p. 30.

† Jay's Peace and War, p. 13.

‡ American Almanac for 1845, page 143.

During this same period there have been $368,526,594, devoted to the military establishment, and $170,437,684 to the naval establishment; the two, forming an aggregate of $538,964,278. Deducting from this sum the appropriations during three years of war, and we shall find that more than *four hundred millions* were absorbed by vain preparations in time of peace for war. Add to this amount a moderate sum for the expenses of the militia during the same period, which a candid and able writer places at present at $50,000,000 a year; for the past years we may take an average of $25,000,000, and we shall have the enormous sum of $1,335,000,000 to be added to the $400,000,000; the whole amounting to *seventeen hundred and thirty five millions* of dollars, a sum beyond the conception of human faculties, sunk under the sanction of the Government of the United States in mere *peaceful preparations for war;* more than *seven times* as much as was dedicated by the Government, during the same period, to all other purposes whatsoever.

From this serried array of figures the mind instinctively retreats. If we examine them from a nearer point of view, and, selecting some particular part compare it with the figures representing other interests in the community they will present a front still more dread.

Within a short distance of this city stands an Institution of learning, which was one of the earliest cares of the early forefathers of the country, the conscientious Puritans. Favored child of an age of trial and struggle, carefully nursed through a period of hardship and anxiety, endowed at that time by the oblations of men like Harvard, sustained from its first foundation by the paternal arm of the Commonwealth, by a constant succession of munificent bequests, and by the prayers of all good men, the University at Cambridge now invites our homage as the most ancient, the most interesting and the most important seat of learning in the land; possessing the oldest and most valuable library, one of the largest museums of mineralogy and natural history,—a School of Law, which annually receives into its bosom more than one hundred and fifty sons from all parts of the Union, where they listen to instruction from professors whose names have become among the most valuable possessions of the land*—a School of Divinity, the nurse of true learning and piety—one of the largest and most flourishing Schools of Medicine in the country—besides these, a general body of teachers, twenty one in number, many of whose names help to keep the name of the country respectable in every part of the globe, where science, learning and taste are cherished—the whole, presided over at this moment by a gentleman, early distinguished in public life by his unconquerable energies and his masculine eloquence, at a later period, by the unsurpassed ability with which he administered the affairs of our city, now, in a green old age, full of years and honors, preparing to lay down his present high trust.† Such is Harvard University; and as one of the humblest of her children, happy in the recollection of a youth nurtured in her classic retreats, I cannot allude to her without an expression of filial affection and respect.

It appears from the last Report of the Treasurer,‡ that the whole available property of the University, the various accumulations of more than two centuries of generosity, amounts to $703,175.

There now swings idly at her moorings in this harbor, a ship of the line, the Ohio, carrying ninety guns, finished as late as 1836 for $547,888; repaired only two years afterwards in 1838, for $223,012; with an armament which has cost $53,945; making an amount of $834,845,§ as the actual cost at this moment of that single ship; more than $100,000 beyond all the available accumulations of the richest and most ancient seat of learning in the land! Choose ye my fellow citizens of a Christian state, between the two caskets—that wherein is the loveliness of knowledge and truth, or that which contains the carrion death.

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* Mr. Justice Story, whose various juridical writings have caused him to be hailed, in foreign lands, among the first jurists of the age; and Professor Greenleaf, whose classic work on the Law of Evidence, has already become an authority on both sides of the Atlantic.

† Hon. Josiah Quincy.

‡ Hon. S. A. Eliot's Report in 1844.

§ Document, No. 132, House of Representatives, 3d session, 27th Congress. Reference is here made to the Ohio, because she happens to be in our waters. The expense of the Delaware in 1842 had been $1,051,000.

Let us pursue the comparison still further. The account of the expenditures of the University during the last year, for the general purposes of the College, the instruction of the Undergraduates, and for the Schools of Law and Divinity, amounts to $45,949. The cost of the Ohio for one year in service, in salaries, wages and provisions, is $220,000; being $175,000 more than the annual expenditures of the University; more than *four times* as much. In other words, for the annual sum that is lavished on one ship of the line, *four* Institutions, like Harvard University, might be sustained throughout the country!

Still further let us pursue the comparison. The pay of the Captain of a ship like the Ohio, is $4,500, when in service; $3,500, when on leave of absence, or off duty. The salary of the President of Harvard University is $2,205; without leave of absence, and never being off duty!

If the large endowments of Harvard University are dwarfed by a comparison with the expense of a single ship of the line, how much more must it be so with those of other institutions of learning and beneficence, less favored by the bounty of many generations. The average cost of a sloop of war is $315,000; more, probably, than all the endowments of those twin stars of learning in the Western part of Massachusetts, the Colleges at Williamstown and Amherst, and of that single star in the East, the guide to many ingenuous youth, the Seminary at Andover. The yearly cost of a sloop of war in service is above $50,000; more than the annual expenditures of these three Institutions combined.

I might press the comparison with other Institutions of beneficence; with the annual expenditures for the Blind—that noble and successful charity, which has shed true lustre upon our Commonwealth—amounting to $12,000; and the annual expenditures for the Insane of the Commonwealth, another charity dear to humanity, amounting to $27,844.

Take all the Institutions of learning and beneficence, the precious jewels of the Commonwealth, the schools, colleges, hospitals and asylums, and the sums by which they have been purchased and preserved are trivial and beggarly, compared with the treasures squandered within the borders of Massachusetts in vain preparations for war. There is the Navy Yard at Charlestown, with its stores on hand, all costing $4,741,000; the fortifications in the harbors of Massachusetts, in which have been sunk already incalculable sums, and in which it is now proposed to sink $3,853,000 more;* and besides, the Arsenal at Springfield, containing in 1842, 175,118 muskets, valued at $2,999,998,† and which is fed by an annual appropriation of about $200,000; but whose highest value will ever be, in the judgment of all lovers of truth, that it inspired a poem, which, in its influence shall be mightier than a battle, and shall endure when arsenals and fortifications have crumbled to the earth.‡

Look for one moment at a high and peculiar interest of the nation, the administration of justice. Perhaps no part of our system is regarded with more pride and confidence by the enlightened sense of the country. To this, indeed, all the other concerns of Government, all its complications of machinery, are in a manner subordinate, since it is for the sake of justice that men come together in states and establish laws. What part of the Government can compare in importance with the Federal Judiciary, that great balance wheel of the Constitution, controlling the relations of the

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* Document; Report of Secretary of War; No. 2. Senate, 27th Congress, 2nd session; where it is proposed to invest in a system of land defences, $51,677,929.

† Exec. Documents of 1842–43, Vol. I. No. 3.

‡ From Mr. Longfellow's "Arsenal at Springfield," I extract two stanzas, which, in poetical expression, are the least attractive of any in the poem, but which commend themselves by their intrinsic truth and moral force;

Were half the power that fills the world with terror,
  Were half the wealth, bestowed on camps and courts,
Given to redeem the human mind from error,
  There were no need of arsenals and forts.

The warrior's name would be a name abhorred!
  And every nation that should lift again
Its hand against its brother, on its forehead
  Would wear forevermore the curse of Cain!

States to each other, the legislation of Congress and of the States, besides private interests to an incalculable amount? Nor can the citizen, who discerns the true glory of his country, fail to recognise in the judicial labors of MARSHALL, now departed, and in the immortal judgments of STORY, who is still spared to us,—*serus in cœlum redeat*—a higher claim to admiration and gratitude than can be found in any triumph of battle. The expenses of the administration of Justice, throughout the United States, under the Federal Government, in 1842, embracing the salaries of the judges, the cost of juries, court-houses and all officers thereof, in short all the outlay by which Justice, according to the requirements of Magna Charta, is carried to every man's door, amounted to $560,990, a larger sum than is usually appropriated for this purpose, but how insignificant compared with the demands of the army and navy!

Let me allude to one more *curiosity* of waste. It appears, by a calculation founded on the the expenses of the Navy, that the average cost of each gun, carried, over the ocean, for one year, amounts to about fifteen thousand dollars;* a sum sufficient to sustain ten professors of Colleges, and equal to the salaries of all the judges of the Supreme Court of Massachusetts and the Governor combined!

Such are a few brief illustrations of the tax which the nations of the world, and particularly our own country, consent to impose on themselves, in time of profound peace, for no purpose of good, but only in obedience to the spirit of war. As we wearily climb, in this survey, from expenditure to expenditure, we seem to pass beyond the region of ordinary calculation; Alps on Alps arise, on whose crowning heights of everlasting ice, far above the habitations of man, where no green thing lives, where no creature draws its breath, we behold the cold, sharp, flashing glacier of War.

In the contemplation of this spectacle the soul swells with alternate despair and hope; with despair, at the thought of such wealth, capable of rendering such service to humanity, not merely wasted but given to perpetuate hate; with hope, as the blessed vision arises of the devotion of all these incalculable means to the purposes of peace. The whole world labors at this moment with poverty and distress; and the painful question occurs to every observer, in Europe as well as at home—what shall become of the poor—the increasing standing army of the poor. Could the humble voice that now addresses you penetrate those distant counsels, or counsels nearer home, it would say, disband your standing armies of soldiers; abandon your fortifications and arsenals, or dedicate them to works of beneficence, as the statue of Jupiter Capitolinus was changed to the image of a Christian saint; apply your navy to purposes of commerce; in fine, utterly forsake the present incongruous system of *armed peace!*

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* Mr. Coues's tract, *What is the use of the Navy of the United States?*

That I may not seem to press to this conclusion with too much haste, at least as regards our own country, I shall consider briefly, as becomes the occasion, the asserted usefulness of the national defences which it is proposed to abandon.

What is the use of the Standing Army of the United States? It has been a principle of freedom, during many generations, to avoid a standing army; and one of the complaints in the Declaration of Independence was that George III had quartered large bodies of troops in the colonies. For the first few years, after the adoption of the Federal Constitution, during our weakness, before our power was assured, before our name had become respected in the family of nations, under the administration of Washington, a small sum was deemed ample for the military establishment of the United States. It was only when the country, at a later day, had been touched by the insanity of war, that it surrendered to military prejudices, and, abandoning the true economy of a Republic, cultivated a military spirit, and lavished the means, which it begrudged to the purposes of Peace, in vain preparation for War. It may now be said of the army of the United States, as Dunning said of the prerogatives of the crown, it has increased, is increasing, and ought to be diminished. At this moment there are more than fifty-five military posts in the country. Of what use is the detachment of the second regiment of Artillery in the quiet town of New London in Connecticut? Of what use is the detachment of the first regiment of Artillery in that pleasant resort of fashion, Newport? No person, who has not lost all sensibility to the dignity of human nature, can observe, without mortification, the discipline, the drilling, the marching and countermarching, the putting guns to the shoulder and the dropping them to the earth, which fill the lives of the poor soldiers, and prepare them to become the mere inanimate parts of a mere *machine*, to which the great living master of the art of war has likened an army. And this sensibility must be much more offended when he beholds a number of the ingenuous youth of the country, under the auspices of the Government, amidst the bewitching scenery of West Point, trained to these same farcical and humiliating exercises.* It is time that the people should declare the army to be, an utterly useless branch of the public service; but not merely useless, also a seminary of idleness and vice, breeding manners uncongenial with our institutions, shortening the lives of those whom it enlists, and maintained at an expense, as we have aleady seen, which far surpasses all that is bestowed on all the civil purposes of the Government.

But I hear the voice of some defender of this abuse, some upholder of this "rotten borough" of our Constitution, crying; the army is needed for the defence of the country! As well might you say, that the shadow is needed for the defence of the body; for what is the army of the United States but the feeble shadow of the power of the American people! In placing the army on its present footing, so small in numbers compared with the forces of the great European States, our Government has tacitly admitted, its superfluousness as a means of defence. Moreover, there is one plea for standing armies in Europe, which cannot prevail here. They are supposed to be needed by Governments, which do not proceed from the popular voice, to sustain their power. The monarchs of the Old World, like the chiefs of the ancient German tribes, are upborne on the shields of the soldiery. Happily with us the Government springs from the hearts of the people, and needs no janizaries for its support. It only remains to declare distinctly that the country will repose, in the consciousness of right, without the wasteful excess of supporting soldiers, lazy consumers of the fruits of the earth, who might do the State good service in the various departments of useful industry.

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* The amount appropriated by Congress for the Institution of West Point, since its establishment, is $4,002,901 15.

What is the use of the Navy of the United States? The annual expense of our Navy for several years past has been upwards of six millions of dollars. For what purpose is this paid? Not for the apprehension of pirates; for frigates and ships of the line are of too great bulk to be of service for this purpose. Not for the suppression of the Slave Trade: for, under the stipulations with Great Britain, we employ only eighty guns in this holy alliance. Not to protect our coasts; for all agree that our few ships would form an unavailing defence against any serious attack. Not for these purposes all will admit; *but for the protection of our Navigation.* This is not the occasion for minute calculations. Suffice it to say, that an intelligent merchant, who has been extensively engaged in commerce for the last twenty years, and who speaks, therefore, with the authority of knowledge, has demonstrated in a tract of perfect clearness, that the annual amount of the freights of the whole mercantile marine of the country does not equal the annual expenditure of the Navy of the United States.* Protection at such cost is more ruinous than one of Pyrrhus's victories!

In objecting to the Navy, I wish to limit myself to the Navy, as an asserted arm of national defence. So far as it may be necessary, as a part of the *police* of the seas, to purge them of pirates, and above all, to defeat the hateful traffic in human flesh, it is a proper arm of Government.

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* I refer to Mr. Coues's tract, *What is the use of the Navy of the United States?* which has already produced a strong effect on many minds, the natural consequence of its unanswerable arguments and statements. No person should undertake to vindicate the Navy, or sanction appropriations for its support, without answering this tract.

The free cities of Hamburgh and Bremen, survivors of the great Hanseatic League, with a commerce that whitens the most distant seas, are without a single ship of war. Let the United States be willing to follow their wise example, and abandon an Institution, which has already become a vain and most expensive TOY!

What is the use of the fortifications of the United States? We have already seen the enormous sums which have been locked in the dead hands, in the odious mortmain, of their everlasting masonry. This is in the hope of saving the country thereby from the horrors of conquest and bloodshed. And here let me meet this suggestion with frankness and distinctness. I will not repeat, what has been set forth in an earlier part of my remarks, the considerations showing that, in our age, no war of strict *self-defence* can possibly arise, no war which can be supported by the consciences of those even who disclaim the highest standard of the Gospel; but I will suppose the case of a war, unjust and unchristian it must be, between our country and one of the great Powers of Europe. In such a war, what would be the effect of the fortifications? Clearly to invite the attack, which they would in all probability, be inadequate to defeat. It is a rule now recognized even in the barbarous code of war, one branch of which has been illustrated with admirable ability in the diplomatic correspondence of Mr. Webster, that non-combatants shall not, in any way, be molested, and that the property of private persons shall in all cases be held sacred. So firmly did the Duke of Wellington act upon this rule, that, throughout the murderous campaigns of Spain, and afterwards when he entered France, flushed with the victory of Waterloo, he directed that his army should pay for all provisions, and even for the forage of their horses. The war is carried on against public property—against fortifications, navy yards, and arsenals. But if these do not exist, there can be no aliment, no fuel for the flame. Every new fortification and every additional gun in our harbor is, therefore, not a safeguard, but a source of danger to our city. Better throw them in the sea, than madly allow them to draw to our homes the lightning of battle, without, alas! any conductor to hurry its terrors innocently beneath the concealing bosom of the earth!

What is the use of the Militia of the United States? This immense system spreads, with more than a hundred arms, over the whole country, sucking its best life-blood, the unbought energies of the youth. The same farcical discipline, shouldering arms and carrying arms, which we have observed in the soldier, absorbs their time, though, of course, to a much less degree than in the regular army. We read with astonishment of the painted flesh, and uncouth vestments of our progenitors, the ancient Britons. The generation will soon come that will regard with equal wonder the pictures of their ancestors, closely dressed in padded and well-buttoned coats of blue, "besmeared with gold," surmounted by a huge mountain-cap of shaggy bear skin, and with a barbarous device, typical of brute force, a tiger, painted on oilskin tied with leather to their backs! In the streets of Pisa, the galley-slaves are compelled to wear dresses, stamped with the name of the crime for which they are suffering punishment; as, theft, robbery, murder. It is not a little strange, that Christians, living in a land, "where bells have tolled to church," should voluntarily adopt devices, which, if they have any meaning, recognise the example of beasts as worthy of imitation by man.* The general considerations, which belong to the subject of preparations for war will illustrate the inanity of the militia, for purposes of National defence. I do not know, indeed, that it is now strongly advocated on this ground. It is most often spoken of as an important part of the *police* of the country. I would not undervalue the blessings to be derived from an active, efficient, ever-wakeful police; and, I believe, that such a police has been long required in our country. But the militia, composed of youth of undoubted character, though of untried courage, is clearly inadequate for this purpose. No person, who has seen them in an actual riot, can hesitate in this judgment.* A very small portion of the means, which are absorbed by the militia, would provide a police, that should be competent to all the emergencies of domestic disorder and violence.

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* It is a curious illustration of the low standard of conduct to which men and nations have appealed, that they have chosen emblems and armorial bearings from beasts and birds of prey. The lion is rampant on the flag of England; the leopard on that of Scotland; a double headed eagle spreads its wings on the imperial standard of Austria. After exhausting the known kingdom of nature, the pennons of knights, like the knapsacks of our militia, were disfigured by imaginary and impossible monsters, griffins, hippogriffs, unicorns, all intended to represent the excess of brute force. Froissart records as a miracle, that a dove once rested in its flight on the royal banner of France. The people of Massachusetts have unconsciously adopted the same degrading standard. In the escutcheon which is used as the seal of the State, there is a most unfortunate combination of disagreeable and unworthy suggestions. On that part, which, in the language of heraldry, is termed the *shield*, is placed an Indian, with a bow in his hand; certainly no agreeable memento, except to those who find *honor* in the disgraceful wars in which our Fathers robbed and murdered King Philip of Pokanoket, and his tribe, the rightful possessors of the soil. The *crest* is a raised arm, holding, in a threatening attitude, a drawn sabre; being precisely the emblem

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which is borne on the flag of Algiers! The *scroll*, or legend, consists of the last of those two lines, in bad Latin, from an unknown source, which we first encounter, as they were inscribed by Algernon Sydney, in the Album at the University of Copenhagen in Denmark;

—— Manus hœc inimica tyrannis,
Ense petit placidam sub libertate quietem.

The Legislature of Massachusetts has adopted, with singular unanimity, resolutions expressing its earnest desire for the establishment of a General Convention, or Congress of Nations, to adjudge questions between nations, and thus supersede the imagined necessity of war. Would it not be an act of moral dignity, becoming the character, which it vaunts before the world, to adopt a new seal; at least to erase that *Algerine* emblem fit only for Corsairs, and those words of *barbarous Latin*, which can awaken only the idea of ignorance and brute force. If a Latin motto be needed, it might be those words of Virgil,

——*pacisque* imponere morem;

or that sentence of noble truth from Cicero; "sine SUMMA JUSTITIA rempublicam geri nullo modo posse." De Republ. Lib. II. cap. 44.

* The riot in Broad Street, in 1837, is often invoked by the devotees of the militia (for it has devotees!) as an instance of the important aid derived from this arm of the police. It will not be denied, however, that an apparatus, much less costly, would have sufficed for the purpose. I hope I shall be pardoned, if I venture to correct a misapprehension, which has extensively prevailed with regard to the services of the militia on that occasion. I had been on the ground, and in the very houses, the scene of the riot, for an hour previous to the appearance of the militia, and am able to state distinctly, that before this arm of the police was discerned in the street moving along "by blore of trump, and thump of drum," the riot had ceased. A small number of intelligent, fearless and unarmed men could have quelled it at a much earlier moment.

The City of Boston has long been convinced of the inexpediency of a Fire Department, composed of mere volunteers. It is to be hoped that a similar conviction may pervade the country with regard to the police. I am well aware, however, that efforts to abolish the militia system will be encountered by some of the dearest prejudices of the common mind; not only by the war spirit; but by that other spirit, which first animates childhood, and at a later day, "children of a larger growth," inviting to finery of dress and parade — the same spirit which fantastically bedecks the dusky feather-cinctured chiefs of the soft regions warmed by the tropical sun; which inserts rings in the noses of the North American Indians; which slits the ears of the Australian savages; and tattoes the New Zealand cannibals.

Such is a review of the true character and value of the National defences of the United States! It will be observed that I have thus far regarded them in the plainest light of ordinary worldly economy, without reference to those higher considerations, founded on the history and nature of man, and the truths of Christianity, which pronounce them to be vain. It is grateful to know, that, though they may yet have the support of what Jeremy Taylor calls the "popular noises," still the more economical, more humane, more wise, more Christian system is daily commending itself to wide circles of the good people of the land. All the virtues that truly elevate a state are on its side. Economy, sick of the pigmy efforts to staunch the smallest fountains and rills of exuberant expenditure, pleads that here is an endless, boundless river, an Amazon of waste, rolling its turbid, unhealthy waters vainly to the sea. It chides us with an unnatural inconsistency, when we strain at a little twine and red tape, and swallow the monstrous cables and armaments of war. Humanity pleads for the poor from whom such mighty means are withdrawn. Wisdom frowns on these preparations as calculated to nurse sentiments, inconsistent with Peace. Christianity calmly rebukes the spirit in which they have their origin, as being of little faith, and treacherous to her high behests; while History shows the sure progress of man, like the lion in Paradise still "pawing to get free his hinder parts," but certain, if he be true to his nature, to emancipate himself from the restraints of earth.

The sentiment, that in time of peace we must prepare for war, has been transmitted from distant ages when brute force prevailed. It is the terrible inheritance, the *damnosa hæreditas*, which painfully reminds the people of our day of their relations with the Past. It belongs to the rejected dogmas of barbarism. It is the companion of those harsh rules of tyranny by which the happiness of the many has been offered up to the propensities of the few. It is the child of Suspicion and the forerunner of Violence. Having in its favor the almost uninterrupted usage of the world, it possesses a hold on the common mind, which is not easily unloosed. And yet the conscientious soul cannot fail, on careful observation, to detect its most mischievous fallacy—a fallacy the most costly the world has witnessed, and which dooms nations to annual tributes in comparison with which all that have been extorted by conquests are as the widow's mite by the side of Pharisaical contributions. So true is what Rousseau said, and Guizot has since repeated, "that a bad principle is far worse than a bad fact;" for the operations of the one are finite, while those of the other are infinite.

I speak of this principle with earnestness; for I believe it to be erroneous and false, founded in ignorance and barbarism, unworthy of an age of light, and disgraceful to Christians. I have called it a principle; but it is a mere *prejudice*—sustained by human example only, and not by lofty truth—in obeying which we imitate the early mariners, who steered from headland to headland and hugged the shore, unwilling to venture upon the broad ocean, where their guide should be the luminaries of Heaven.

Dismissing from our minds, the actual usage of nations on the one side, and the considerations of economy on the other, and regarding preparations for war in time of Peace in the clear light of reason, in a just appreciation of the nature of man, and in the injunctions of the highest truth, and they cannot fail to be branded as most pernicious. They are pernicious on two grounds; *first*, because they inflame the people, who make them, exciting them to deeds of violence which otherwise would be most alien to their minds; and *second*, because having their origin in the low motive of distrust and hate, they inevitably, by a sure law of the human mind, excite a corresponding feeling in other nations. Thus they are in fact not the *preservers of peace*, but the *provokers of war.*

In illustration of the *first* of these grounds, it will occur to every inquirer, that the possession of power is always in itself dangerous, that it tempts the purest and highest natures to self-indulgence, that it can rarely be enjoyed without abuse; nor is the power to employ Force in war, or otherwise, an exception to this law. History teaches that the nations possessing the greatest military forces, have always been the most belligerent; while the feebler powers have enjoyed, for a longer period, the blessings of Peace. The din of war resounds throughout more than seven hundred years of Roman history, with only two short lulls of repose; while smaller states, less potent in arms, and without the excitement to quarrels on this account, have enjoyed long eras of Peace. It is not in the history of nations only, that we find proofs of this law. Like every great moral principle it applies equally to individuals. The experience of private life, in all ages, confirms it. The *wearing of arms* has always been a provocative to combat. It has excited the spirit and furnished the implements of strife. As we revert to the progress of society in modern Europe, we find that the odious system of private quarrels, of hostile meetings even in the street, continued so long as men persevered in the habit of wearing arms. Innumerable families were thinned by death received in these hasty and often unpremeditated encounters; and the lives of scholars and poets were often exposed to their rude chances. Marlowe, "with all his rare learning and wit," perished ignominiously under the weapon of an unknown adversary; and Savage, whose genius and misfortune inspired the friendship and the eulogies of Johnson, was tried for murder committed in a sudden broil. "The expert swordsman," says Mr. Jay,* "the practised marksman, is ever more ready to engage in personal combats, than the man who is unaccustomed to the use of deadly weapons. In those portions of our country where it is supposed essential to personal safety to go armed with pistols and bowie-knives, mortal affrays are so frequent as to excite but little attention, and to secure, with rare exceptions, impunity to the murderer; whereas, at the North and East, where we are unprovided with such facilities for taking life, comparatively few murders of the kind are perpetrated. We might, indeed, safely submit the decision of the principle we are discussing to the calculations of pecuniary interest. Let two men, equal in age and health, apply for an insurance on their lives; one known to be ever armed to defend his honor and his life against every assailant; and the other, a meek, unresisting Quaker. Can we doubt for a moment which of these men would be deemed by the Insurance Company most likely to reach a good old age?"

The *second* of these grounds is a part of the unalterable nature of man, which was recognised in early ages, though unhappily it has been rarely made the basis of intercourse among nations. It is an expansion of the old Horatian adage, *Si vis me flere, primam flendum est tibi;* if you wish me to weep, you must yourself first weep. So are we all knit together the feelings in our own bosom awaken corresponding feelings in the bosom of others; as harp answers to harp in its softest vibrations; as deep responds to deep in the might of its passions. What within us is good invites the good in our brother; generosity begets generosity; love wins love; Peace secures Peace; while all within us that is bad challenges the bad in our brother; distrust engenders distrust; hate provokes hate; War arouses War. Life is full of illustrations of this beautiful law. Even the miserable maniac, in whose mind the common rules of conduct are overthrown, confesses its overruling power, and the vacant stare of madness may be illumined by a word of love. The wild beasts confess it; and what is the interesting story of Orpheus, whose music drew, in listening rapture, the lions and panthers of the forest, but an expression of this prevailing law?*

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* Address before the American Peace Society, p. 23, 24.

Literature abounds in illustrations of this principle. Looking back to the early dawn of the world, one of the most touching scenes which we behold, illumined by that Auroral light, is the peaceful visit of the aged Priam to the tent of Achilles to intreat the body of his son. The fierce combat has ended in the death of Hector, whose unhonored corse the bloody Greek has already trailed behind his chariot. The venerable father, after twelve days of grief, is moved to efforts to regain the remains of the Hector he had so dearly loved. He leaves his lofty cedarn chamber, and with a single aged attendant, unarmed, repairs to the Grecian camp, by the side of the distant sounding sea. Entering alone, he finds Achilles within his tent; in the company of two of his chiefs. He grasps his knees, and kisses those terrible homicidal hands, which had taken the life of his son. The heart of the inflexible, the angry, the inflamed Achilles, is touched by the sight which he beholds, and responds to the feelings of Priam. He takes the suppliant by the hand, seats him by his side, consoles his grief, refreshes his weary body, and concedes to the prayers of a weak, unarmed, old man, what all Troy in arms could not win.† In this scene the poet, with unconscious power, has presented a picture of the omnipotence of that law of our nature, making all mankind of kin, in obedience to which no word of kindness, no act of confidence, falls idly to the earth.

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* There is a striking illustration of this law in the incident recorded by Homer in the Odyssey, (XIV, 30, 31,) where Ulysses, on reaching his loved Ithaca, is beset by dogs, who are described as wild beasts in ferocity, and who barking rushed towards him; but he, with *craft*, (that is the word of Homer) seats himself upon the earth, *and lets his staff fall from his hands;* thus in unarmed repose finding protection. A similar incident is noticed by Mr. Mure in his entertaining travels in Greece; and also by Mr. Borrow in his *Bible in Spain.* Pliny remarks that all dogs may be appeased in the same way. Impetus eorum, et sævitia mitigantur ab homine considente humi. Nat. Hist. Lib. VIII. cap. 40.

† This scene fills a large part of a book of the Iliad. (XXIV.) It is instructive to all, who would know what commends itself most truly to the heart of man, what is most truly grand, to observe that the passages of Homer which receive the most unquestioned admiration are—not the bloody combats even of the bravest chiefs, even of the Gods themselves—but those two passages in which he has painted the gentle, unwarlike, affections of our nature; the parting of Hector and Andromache, and the supplication of Priam.

Among the legendary passages of Roman history, perhaps none makes a deeper impression, than that scene, after the Roman youth had been consumed at Allia, and the invading Gauls under Brennus had entered the city, where we behold the venerable Senators of the Republic, too old to flee, and careless of surviving the Roman name, seated each on his curule chair, in a temple, unarmed, looking, as Livy says, more august than mortal, and with the majesty of the Gods. The Gauls gaze on them as upon sacred images, and the hand of slaughter, which had raged through the streets of Rome, is stayed by the sight of an assembly of unarmed old men. At length a Gaul approaches and gently strokes with his hand the silver beard of a Senator, who, indignant at the license, smites the barbarian with his ivory staff; which was the signal for general vengeance. Think you, that a band of savages could have slain these Senators, if the appeal to force had not first been made by one of their own number!*

Following this sentiment in the literature of modern times we find its pervading presence. I will not dwell on the examples which arise to the mind.† I will allude only to that scene in Swedish poetry, where Frithiof, in deadly combat with Atlé, when the falchion of the latter broke, said, throwing away his own weapon ;—

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* This story is recounted by Livy, Lib. V. Cap. 4, 2; also by Plutarch in his life of Camillus. It is properly repudiated by Niebuhr as a legend; but it is none the less important, as an illustration of that law, which is considered in the text. The heart of man confesses that the Roman Senator provoked death for himself and associates.

† Guizot preserves an instance of the effect which was produced by an unarmed man before a violent multitude, employing the word instead of a sword. (Guizot, Historie de la Civilization, Tom. II. p. 36.) Who can forget that finest scene in that noble historical romance, the *Promessi Sposi*, where Fra Cristofero, in an age of violence, after slaying a comrade in a broil, in unarmed penitence, seeks the presence of the family and retainers of his victim, and awakens by his dignified gentleness, the admiration of those who were mad with the desire of vengeance? A popular romance, which has just left the press, and is now read in both hemispheres, *Le Juif Errant*, by Eugene Sue, has an interesting picture, at the close of the second volume, of the superiority of Christian courage over the hired and trained violence of soldiers.

——— Swordless foeman's life
Ne'er dyed this gallant blade.

The two champions now closed in mutual clutch ; they hugged like bears, says the Poet ;

'Tis o'er ; for Frithiof's matchless strength
  Has felled his ponderous size ;
And 'neath that knee, at giant length,
  Supine the Viking lies.
" But fails my sword, thou Berserk swart !"
  The voice rang far and wide,
" Its point should pierce thy inmost heart,
  Its hilt should drink the tide."
" Be free to lift the weaponed hand,"
  Undaunted Atlé spoke,
Hence, fearless, quest thy distant brand !
  Thus I abide the stroke."

Frithiof regains his sword, intent to close the dread debate, while his adversary awaits the stroke ; but his heart responds to the the generous courage of his foe ; he cannot injure one, who has shown such confidence in him ;—

This quelled his ire, this checked his arm,
Outstretched the hand of peace.[*]

I cannot leave these illustrations without alluding particularly to the history of the treatment of the insane, which is full of deep instruction, showing how strong in nature must be the principle, which leads us to respond to the conduct and feelings of others. When Pinel first proposed to remove the heavy chains from the raving maniacs of the hospitals of Paris, he was regarded as one who saw visions, or dreamed dreams. His wishes were gratified at last ; and the change was immediate ; the wrinkled front of evil passions was smoothed into the serene countenance of Peace. The old treatment by force, is now universally abandoned ; the law of love has taken its place; and all these unfortunates mingle together, unvexed by those restraints, which implied suspicion, and, therefore aroused opposition. The warring propensities, which once filled with confusion and strife, the hospitals for the insane, while they were controlled by force, are a dark but feeble type of the present relations of nations, on whose hands are the heavy chains of military preparations, assimilating the world to one great Mad-House; while the peace and good will which now abound in these retreats, are the happy emblems of what awaits the world when it shall have the wisdom to recognise the supremacy of the higher sentiments of our nature; of gentleness, of confidence, of love;

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[*] Tegner's Frithiof's Saga, Canto XI, translated by Strong; Longfellow's Poets and Poetry of Europe, p. 161.

> ——— making their future might
> Magnetic o'er the fixed untrembling heart.

I might also dwell on the recent experience, so full of delightful wisdom, in the treatment of the distant, degraded, convicts of New South Wales,* showing the importance of confidence and kindness on the part of their overseers, in awakening a corresponding sentiment even in these outcasts, from whose souls virtue seems, at first view, to be wholly blotted out. Thus, from all quarters, from the far-off Past, from the far-away Pacific, from the verse of the poet, from the legend of history, from the cell of the mad-house, from the assembly of transported criminals, from the experience of daily life, from the universal heart of man ascends the spontaneous tribute to the prevailing power of that law, according to which the human heart responds to the feelings by which it is addressed, whether of confidence or distrust, of love or hate.

It will be urged that these instances are exceptions to the general laws by which mankind are governed. It is not so. They are the unanswerable evidence of the real nature of man. They reveal the Divinity of Humanity, out of which all goodness, all happiness, all true greatness can alone proceed. They disclose susceptibilities which are general, which are confined to no particular race of men, to no period of time, to no narrow circle of knowledge and refinement—susceptibilities which are present wherever two or more human beings come together. It is, then, on the impregnable ground of the universal and unalterable nature of man, that I place the fallacy of that prejudice, in obedience to which, in time of peace we prepare for war.

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* The reader is referred to the several publications of Captain Macchonichie, whose labors of beneficence entitle him to more than a vulgar military laurel.

But this prejudice is not only founded on a misconception of the nature of man; it is abhorrent to Christianity, which teaches that Love is more puissant than Force. To the reflecting mind the Omnipotence of God himself is less discernible in the earthquake and the storm than in the gentle but quickening rays of the sun, and the sweet descending dews. And he is a careless observer who does not recognise the superiority of gentleness and kindness, as a mode of exercising influence, or securing rights among men. As the winds of violence beat about them, they hug those mantles, which they gladly throw to the earth under the genial warmth of a kindly sun. Thus far, nations have drawn their weapons from the earthly armories of Force, unmindful of those others of celestial temper from the house of Love.

But Christianity not only teaches the superiority of Love over Force; it positively enjoins the practice of the one, and the rejection of the other. It says; "Love your neighbors;" but it does not say; "In time of Peace rear the massive fortification, build the man of war, enlist armies, train the militia, and accumulate military stores to be employed in future quarrels with your neighbors." Its precepts go still further. They direct that we should do unto others, as we would have them do unto us — a golden rule for the conduct of Nations as well as individuals, called by Confucius the virtue of the heart, and made by him the basis of the nine maxims of Government which he presented to the sovereigns of his country; but how inconsistent with that distrust of others, in wrongful obedience to which nations, in time of Peace, seem to sleep like soldiers on their arms.* But its precepts go still further. They enjoin patience, suffering, forgiveness of evil, even the duty of benefitting a destroyer, "as the sandal wood, in the instant of its overthrow, sheds perfume on the axe which fells it." And can a people, in whom this faith is more than an idle word, consent to such enormous sacrifices of money, in violation of its plainest precepts?

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* Oeuvres de Bernardin de St. Pierre, Harmonies de la Nature, Tom. 10, p. 138.

The injunction, "Love one another," is applicable to nations as well as individuals. It is one of the great laws of Heaven. And any one may well measure his nearness to God by the degree to which he regulates his conduct by this truth.

In response to these successive views, founded on considerations of economy, of the true nature of man, and of Christianity, I hear the sceptical note of some defender of the transmitted order of things, some one who wishes "to fight for Peace," saying; these views are beautiful, but visionary; they are in advance of the age; the world is not yet prepared for their reception. To such persons, (if there be such) I would say; nothing can be beautiful that is not true; but these views are true; the time is now come for their reception; now is the day and now is the hour. Every effort to impede their progress arrests the advancing hand on the great dial-plate of human happiness.

The name of Washington is invoked as an authority for a prejudice, which Economy, Humanity and Christianity all declare to be false. Mighty and reverend as is his name, more mighty and more reverend is Truth. The words of counsel which he gave were in accordance with the Spirit of his Age—an age which was not shocked by the slave-trade. But his lofty soul, which loved virtue, and inculcated justice and benevolence, frowns upon the efforts of those who would use his authority as an incentive to War. God forbid that his sacred character should be profanely stretched, like the skin of John Ziska, on a militia drum to arouse the martial ardor of the American people!*

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* The following table of the Military and Naval Expenditures of the United States, during the eight years of the administration of Washington, compared

It is melancholy to consider the impediments which truth encounters on its first appearance. A large portion of mankind, poising themselves on the flagitious fallacy that *Whatever is, is right*, avert their countenances from all that is inconsistent with established usage. I have already, in another part of this address, set forth the superiority of principle to any human example; I would here repeat that the practice of nations can be no apology for a system which is condemned by such principles as I have now considered. Truth enters the world like a humble child, with few to receive her; it is only when she has grown in years and stature, and the purple flush of youthful strength beams from her face, that she is sought and wooed. It has been thus in all ages. Nay more; there is often an irritation excited by her presence;

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with those for the last eight years, to which I have had access, will show how his practice accords with that of our day.

Years.	Military Establishment.	Naval Establishment.
1789–91	$ 835,000	$ 570
1792	1,223,594	53 !
1793	1,237,620	
1794	2,733,540	61,409
1795	2,573,059	410,562
1796	1,474,661	274,784
Total during the eight years of Washington,	$10,078,092	$847,378
1835	9,420,313	3,864,939
1836	18,466,110	5,800,763
1837	19,417,274	6,852,060
1838	19,936,412	5,175,771
1839	14,268,981	6,225,003
1840	11,621,438	6,124,445
1842	13,903,898	6,246,503
1843	8,248,918	7,963,678
Total during eight years,	$114,283,244	$49,053,473

Thus it appears that the expenditures for the defences of the country, under the sanction of Washington, amounted to about *eleven million* dollars, while those during a recent similar period of eight years, stretch to upwards of *one hundred and sixty-four million dollars!* To him who quotes the precept of Washington I commend the practice. All will agree, that, in this age, when the whole world is at peace, and when our power is assured, there is less need of these preparations than in an age convulsed with war, when our power was little respected. The only semblance of an argument in their favor is founded in the increased wealth of the country; but the capacity of the country to endure taxation is no criterion of its justice!

and men who are kind and charitable forget their kindness and lose their charity towards the unaccustomed stranger. It was this feeling, which awarded a dungeon to Galileo, when he declared that the earth moved round the sun; which neglected the great discovery of the circulation of the blood by Hartley; and which bitterly opposed the divine philanthropy of Clarkson when he first denounced the wickedness of the slave-trade. But the rejected Truths of to-day shall become the chief corner stones to the next generation.

Auspicious omens in the history of the Past and in the present, cheer us for the future. The terrible wars of the French Revolution were the violent rending of the body which preceded the exorcism of the fiend. Since the morning stars first sang together, the world has not witnessed a Peace so harmonious and enduring as that which now blesses the Christian nations. Great questions between them, fraught with strife, and in another age, sure heralds of war, are now determined by Arbitration or Mediation. Great political movements, which only a few short years ago, must have led to forcible rebellion, are now conducted by peaceful discussion. Literature, the press and various societies, all join in the holy work of inculcating good will to man. The Spirit of Humanity now pervades the best writers, whether the elevated philosophical inquiries of the *Vestiges of Creation*, the ingenious but melancholy moralizings of a *Story of a Feather*, or the overflowing raillery of *Punch*.* Genius can never be so Promethean as when it bears the Heavenly fire of Love to the hearths of men.

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* While this Oration was passing through the press, I read in one of the public prints, a letter dated Birmingham, July 3d, 1845, from which I make the following extract; "The Peace Question makes rapid progress in this country. I verily believe that if the people were polled to-morrow, nine tenths of them would pronounce all war to be unchristian, and not a few would vote for the entire abrogation of our military and naval forces. The London Peace Society is doing much to deepen and confirm this feeling, and nearly all our cheap periodicals are *peace-toned*." The last fact is of peculiar importance; for it is in this way that the hearts of the people are to be touched. The agitation in Ireland, and that gigantic combination in England, the Anti-Corn Law League, proceed on the *Peace principle*. "Remember," says Mr. O'Connell, in words that will be immortal, "that no political change, is worth a single crime, or above all, a single drop of human blood.

It was Dr. Johnson, in the last age, who uttered the detestable sentiment, that he liked "a good Hater;" the man of this age shall say he likes "a good Lover." A poet, whose few verses will bear him on his immortal flight with unflagging wing, has given expression to this sentiment in words of uncommon pathos and power ;*

> He prayeth well who loveth well
> All things, both great and small.
>
> He prayeth best who loveth best
> Both man and bird and beast,
> For the dear God, who loveth us
> He made and loveth all.

Every where the ancient law of Hate is yielding to the law of Love. It is seen in the change of dress ; the armor of complete steel was the habiliment of the knight ; and the sword was an indipensable companion of the gentleman of the last century ; but he would be thought a madman or a bully who should wear either now. It is seen in the change in domestic architecture. The places once chosen for castles or houses, were in the most savage, inaccessible retreats, where the massive structure was reared, destined solely to repel attacks, and to enclose its inhabitants. The monasteries and churches were fortified, and girdled by towers, ramparts and ditches, and a child was often stationed as a watchman—not of the night—but to observe what passed at a distance and announce the approach of the enemy !† The houses of the peaceful citizens in towns were castellated, often without so much as an aperture for light near the ground, and with loop-holes above, through which the shafts of the cross-bow might be aimed.‡ In the system of fortifications, and preparations for war nations act towards each other, in the spirit of distrust and barbarism, which we have traced in the individual, but which he has now renounced. In so doing, they take counsel of the wild boar in the fable, who whetted his tusks on a tree of the forest, when no enemy was near, saying that in time of peace he must prepare for war. But has not the time now come, when man whom God created in his own image; and to whom He gave the Heaven-directed countenance, shall cease to look down to the beasts for examples of conduct?

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* Coleridge ; Ancient Mariner.

† Guizot, Histoire de la Civilization, Tom. III. 336.

‡ The two volumes of colored plates from the illuminations of Froissart which have been recently published, will give an accurate idea of the system of defences within which private individuals sheltered themselves. For other illustrations, see Appendix, Note F.

We have already offered our homage to an early monarch of France, for his efforts in abolishing the Trial by Battle and in the cause of Peace. To another monarch of France in our own day, a descendant of St. Louis, worthy of the illustrious lineage, Louis Philippe, belongs the honest fame of first publishing from the throne* the truth, that Peace was endangered by preparations for War. "The sentiment, or rather the principle," he says, "that in peace you must prepare for war, *is one of difficulty and danger; for while we keep armies on land to preserve peace, they are, at the same time incentives and instruments of war.* He rejoiced in all efforts to preserve peace, for that was what all need. He thought the time was coming when we shall get rid entirely of war in all civilized countries." This time has been hailed by a generous voice from the army itself, by a Marshal of France, who gave as a toast at a public dinner in Paris,† the following words of salutation to a new and approaching era of happiness; "To the pacific Union of the great human family by the association of individuals, nations and races! To the annihilation of war! To the transformation of destructive armies into corps of industrious laborers, who will consecrate their lives to the cultivation and embellishment of the world!" Be it our duty to speed this consummation!

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* In reply to an address by the Deputation from the London Peace Convention in 1843.

† Marshal Bugeaud, Governor of Algiers, gave this toast April 7th, 1840, at one of several public dinners at that time, to commemorate the character and services of Fourier. How unlike this humane and noble sentiment of the Marshal of France, are the braggart standing toasts at the celebrations of our National Anniversary, vaunting in swelling phrase, the glories of the army, the navy and the militia, while the great interests of civilization, the administration of justice, Education, Humanity, are neglected or only introduced, like sour olives and mouldy cheese, at the end of the feast.

To William Penn, belongs the distinction destined to brighten as men advance in virtue, of first in human history, establishing the *Law of Love* as a rule of conduct for the intercourse of Nations. While he recognized as a great end of government "to support power in reverence with the people, and to secure the people from abuse of power,"[*] he declined the superfluous protection of arms against foreign force, and "aimed to reduce the savage nations by just and gentle manners to the love of civil society and the Christian religion." His serene countenance, as he stands with his followers in what he called the sweet and clear air of Pennsylvania, all unarmed, beneath the spreading elm, forming the Great Treaty of friendship with the untutored Indians—who filled with savage display the surrounding forest as far as the eye could reach—not to wrest their lands by violence, but to obtain them by peaceful purchase, is, to my mind, the proudest picture in the history of our country. "The Great God," said this illustrious Quaker, in his words of sincerity and truth addressed to the Sachems, "has written his law in our hearts, by which we are taught, and commanded to love, and to help, and to do good to one another. It is not our custom to use hostile weapons against our fellow creatures, for which reason we have come unarmed. Our object is not to do injury, but to do good. We have met then in the broad pathway of good faith and good will, so that no advantage can be taken on either side, but all is to be openness, brotherhood and love; while all are to be treated as of the same flesh and blood."[*] These are, indeed, words of true greatness. "Without any carnal weapons," says one of his companions, "we entered the land, and inhabited therein as safe as if there had been thousands of garrisons." "This little state," says Oldmixon, "subsisted in the midst of six Indian nations without so much as a militia for its defence." A great man, worthy of the mantle of Penn, the venerable philanthropist,

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[*] Preface to Penn's Constitution.

[†] Clarkson's Life of Penn, I. cap. 18.

Clarkson, in his life of the founder of Pennsylvania, says; "The Pennsylvanians became armed though without arms; they became strong, though without strength; they became safe, without the ordinary means of safety. The constable's staff was the only instrument of authority amongst them for the greater part of a century, and never, during the administration of Penn; or that of his proper successors, was there a quarrel or a war.*"

Greater than the Divinity that doth hedge a King, is the Divinity that encompasses the righteous man, and the righteous people. The flowers of prosperity smiled in the blessed footprints of William Penn. His people were unmolested and happy, while (sad, but true contrast!) those of other colonies, acting upon the policy of the world, building forts, and showing themselves in arms, not after receiving provocation, but merely in the anticipation, or from the fear, of insults or danger, were harassed by perpetual alarms, and pierced by the sharp arrows of savage war.†

This pattern of a Christian Commonwealth never fails to arrest the admiration of all who contemplate its beauties. It drew an epigram of eulogy from the caustic pen of Voltaire, and has been fondly painted by many virtuous historians. Every ingenuous soul in our day, offers his willing tribute to those celestial graces of justice and humanity, by the side of which the flinty hardness of the Pilgrims of Plymouth Rock seems earthly and coarse.

But let us not confine ourselves to barren words in recognition of virtue. While we see the right, and approve it too, let us dare to pursue it. Let us now, in this age of civilization, surrounded by Christian nations, be willing to follow the successful example of William Penn, surrounded by savages. Let us, while we recognize those transcendant ordinances of God, *the Law of Right*, and *the Law of Love*,—the double suns which illumine the moral universe—

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* Life of Penn, II. cap. 23.

† Ample illustrations of this striking difference between the fate of the colony of Pennsylvania, and its sister Colonies, may be found in Clarkson, II. cap 22.

aspire to the true glory, and what is higher than glory, the great good, of taking the lead in the disarming of the nations. Let us abandon the system of preparation for war, in time of Peace, as irrational, unchristian, vainly prodigal of expense, and having a direct tendency to excite the very evil against which it professes to guard. Let the enormous means thus released from iron hands, be devoted to labors of beneficence. Our battlements shall be schools, hospitals, colleges and churches; our arsenals shall be libraries; our navy shall be peaceful ships on errands of perpetual commerce; our army shall be the teachers of youth, and the ministers of religion. This is indeed, the cheap defence of nations. In such entrenchments what Christian soul can be touched with fear. Angels of the Lord shall throw over the land an invisible, but impenetrable panoply ;—

> Or if virtue feeble were
> Heaven itself would stoop to her.*

At the thought of such a change in policy, the imagination loses itself in the vain effort to follow the various streams of happiness, which gush forth as from a thousand hills. Then shall the naked be clothed and the hungry fed. Institutions of science and learning shall crown every hill-top; hospitals for the sick, and other retreats for the unfortunate children of the world, for all who suffer in any way, in mind, body or estate, shall nestle in every valley; while the spires of new churches shall leap exulting to the skies. The whole land shall bear witness to the change; art shall confess it in the new inspiration of the canvass and the marble; the harp of the Poet shall proclaim it in a loftier rhyme. Above all, the heart of man shall bear witness to it, in the elevation of his sentiments, in the expansion of his affections, in his devotion to the highest truth, in his appreciation of true greatness. The eagle of our country, without the terror of his beak, and dropping the forceful thunderbolt from his pounces, shall soar with the olive of Peace, into untried realms of ether, nearer to the sun.

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* These are the concluding words of that most exquisite creation of early genius, the Comus. I have seen them in Milton's own hand writing, inscribed by himself, during his travels in Italy, as a motto, in an Album; thus showing that they were regarded by him as expressing an important moral truth. The truth, which is thus embalmed by the grandest poet of modern times, is also illustrated, in familiar words, by the most graceful poet of Antiquity.

> Integer vitæ scelerisque purus,
> Non eget Mauri jaculis, neque arcu,
> Nec venenatis gravida sagittis,
> Fusce, pharetra.

Dryden pictures the same truth in some of his most magical lines;

> A milk-white hind, immortal and unchanged,
> Fed on the lawns, and in the forest ranged.
> Without unspotted, innocent within,
> *She feared no danger, for she knew no sin.*

And here let us review the field over which we have passed. We have beheld war, a mode of determining justice between nations, having its origin in an appeal, not to the moral and intellectual part of man's nature, distinguishing him from the beasts, but to that low part of his nature, which he has in common with the beasts; we have contemplated its infinite miseries to the human race; we have weighed its sufficiency as a mode of determining justice between nations, and found that it is a rude appeal to force or a gigantic game of chance, in which God's children are profanely dealt with as a pack of cards. We have next considered the various prejudices by which it is sustained; founded on a false belief in its necessity; on the practice of nations past and present; on the infidelity of the Christian Church; on the false idea of honor; on an exaggerated idea of the duties of patriotism; and lastly that monster prejudice, which draws its vampire life from the vast preparations in time of peace for war; dwelling at the last stage upon the thriftless, irrational and unchristian character of these preparations, and catching a vision of the exalted good that will be achieved when our country, learning wisdom, shall aim at the true grandeur of Peace.

And now, if it be asked why, on this National Anniversary, in the consideration of the TRUE GRANDEUR OF NATIONS, I have thus dwelt singly and exclusively on war, it is, because war is utterly and irreconcilably inconsistent with true greatness. Thus far mankind has worshipped, in military glory, an idol compared with which the colossal images of ancient Babylon, or modern Hindostan are but toys; and we, in this blessed day of light, in this blessed land of freedom, are among the idolaters. The Heaven-descended injunction, *know thyself*, still speaks to an ignorant world from the distant letters of gold at Delphi; *know thyself;* know that the moral nature is the most noble part of man; transcending far that part which is the seat of passion, strife and war; nobler than the intellect itself. Suppose war to be decided by *force*, where is the glory? Suppose it to be decided by *chance*, where is the glory? No; true greatness consists in imitating as near as is possible for Finite man, the perfections of an Infinite Creator; above all, in cultivating those highest perfections, Justice and Love; Justice, which like that of St. Louis, shall not swerve to the right hand or to the left; Love, which like that of William Penn, shall regard all mankind of kin. "God is angry," says Plato, "when any one censures a man like himself, *or praises a man of an opposite character*. And the God-like man is the good man."* And again, in another of those lovely dialogues, vocal with immortal truth, "Nothing resembles God more than that man among us who has arrived at the highest degree of justice."† The true greatness of nations is in those qualities which constitute the greatness of the individual. It is not to be found in extent of territory, nor in vastness of population, nor in wealth; not in fortifications, or armies, or navies; not in the phosphorescent glare of fields of battle; not in Golgothas, though covered by monuments that kiss the clouds; for all these are the creatures and representatives of those qualities of our nature, which are unlike any thing in God's nature.

Nor is the greatness of nations to be found in triumphs of the intellect alone, in literature, learning, science or art. The polished Greeks, the world's masters in the delights of language, and in range of thought, and the commanding Romans, overawing the earth with their power, were little more than splendid savages; and the age of Louis XIV of France, spanning so long a period of ordinary worldly magnificence, thronged by marshals bending under military laurels, enlivened by the unsurpassed comedy of Molière, dignified by the tragic genius of Corneille, illumined by the splendors of Bossuet, is degraded by immoralities that cannot be mentioned without a blush, by a heartlessness in comparison with which the ice of Nova Zembla is warm, and by a succession of deeds of injustice not to be washed out by the tears of all the recording angels of Heaven.*

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* Minos § 12. † Theætetus, § 87.

The true greatness of a Nation cannot be in triumphs of the intellect alone. Literature and art may widen the sphere of its influence; they may adorn it; but they are in their nature but accessaries. The true grandeur of humanity is in moral elevation, enlightened and decorated by the intellect of man. The truest tokens of this grandeur in a State are the diffusion of the greatest happiness among the greatest number, and that passionless God-like Justice, which controls the relations of the State to other States, and to all the people, who are committed to its charge.

But war crushes with bloody heel all justice, all happiness, all that is God-like in man. "It is," says the eloquent Robert Hall, "the temporary repeal of all the virtues." True, it cannot be disguised, that there are passages in its dreary annals cheered by deeds of generosity and sacrifice. But the virtues which shed their charm over its horrors are all borrowed of Peace; they are emanations of the spirit of Love, which is so strong in the heart of man, that it survives the rudest assaults. The flowers of gentleness, of kindliness, of fidelity, of humanity, which flourish in unregarded luxuriance in the rich meadows of Peace, receive unwonted admiration when we discern them in war, like violets shedding their perfume on the perilous edges of the precipice, beyond the smiling borders of civilization. God be praised for all the examples of magnanimous virtue which he has vouchsafed to mankind! God be praised that the Roman Emperor, about to start on a distant expedition of war, encompassed by squadrons of cavalry and by golden eagles which moved in the winds, stooped from his saddle to listen to the prayer of the humble widow, demanding justice for the death of her son![*] God be praised that Sydney, on the field of battle, gave with dying hand the cup of cold water to the dying soldier! That single act of self-forgetful sacrifice, has consecrated the fenny field of Zutphen, far, oh! far beyond its battle, it has consecrated thy name, gallant Sydney, beyond any feat of thy sword, beyond any triumph of thy pen. But there are hands outstretched elsewhere than on fields of blood, for so little as a cup of cold water; the world is full of opportunities for deeds of kindness. Let me not be told, then, of the virtues of War. Let not the acts of generosity and sacrifice, which have triumphed on its fields, be invoked in its defence. In the words of Oriental imagery, the poisonous tree, though watered by nectar, can produce only the fruit of death!

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* The false glory of Louis XIV, which procured for him from flattering courtiers and a barbarous world, the title of Great, was questioned by one of his own subjects, the good Abbé de Saint Pierre. To this early Apostle of Humanity and Peace, the author of the *Projet de paix perpetuelle*, the advocate of good will to man, the world, as it wakes from its martial trance, shall offer large tributes of admiration and gratitude. His voice was that of one crying in the wilderness; but it was the herald of the reign of Peace. He enriched the French language with the word *bienfaisance;* and D'Alembert said that it was right that he should have invented the word, who practised so largely the virtue which it expressed. The good Abbé is not to be confounded with the eccentric and eloquent Bernardin de Saint Pierre, the author of Paul and Virginia.

As we cast our eyes over the history of nations we discern with horror the succession of murderous slaughters by which their progress has been marked. As the hunter traces the wild beast, when pursued to his lair by the drops of blood on the earth, so we follow Man, faint, weary, staggering with wounds, through the Black Forest of the Past, which he has reddened with his gore. Oh! let it not be in the future ages as in those which we now contemplate. Let the grandeur of man be discerned in the blessings which he has secured; in the good he has accomplished; in the triumphs of benevolence and justice; in the establishment of perpetual peace.*

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[*] This most admired instance of justice, according to the legends of the Catholic Church, opened to Trajan, although a Heathen, the gates of salvation. Dante found the scene and the *visibile parlare* of the widow and Emperor storied on the walls of Purgatory, and he has transmitted them in a passage which commends itself hardly less than any in the Divine Poem. *Purgatorio*, Canto X.

As the ocean washes every shore, and clasps with its all-embracing arms, every land, while it bears on its heaving bosom the products of various climes; so Peace surrounds, protects and upholds all other blessings. Without it commerce is vain, the ardor of industry is restrained, happiness is blasted, virtue sickens and dies.

And Peace has its own peculiar victories, in comparison with which Marathon and Bannockburn and Bunker Hill, fields held sacred in the history of human freedom, shall lose their lustre. Our own Washington rises to a truly Heavenly stature,—not when we follow him over the ice of the Delaware to the capture of Trenton—not when we behold him victorious over Cornwallis at Yorktown; but when we regard him, in noble deference to justice, refusing the kingly crown which a faithless soldiery proffered, and at a later day, upholding the peaceful neutrality of the country, while he received unmoved the clamor of the people wickedly crying for war. What glory of battle in England's annals will not fade by the side of that great act of Justice, by which her Legislature, at a cost of one hundred million dollars, gave freedom to eight hundred thousand slaves! And when the day shall come, (may these eyes be gladdened by its beams!) that shall witness an act of greater Justice still, the peaceful emancipation of three millions of our fellow-men, "guilty of a skin not colored as our own," now held in gloomy bondage, under the constitution of our country, then shall there be a victory, in comparison with which that of Bunker Hill shall be as a farthing-candle held up to the sun. That victory shall need no monument of stone. It shall be written on the grateful hearts of uncounted multitudes, that shall proclaim it to the latest generation. It shall be one of the great land-marks of civilization; nay more, it shall be one of the links in the golden chain by which Humanity shall connect itself with the throne of God.

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* Sed jam serpentum major concordia; parcit
Cognatis maculis similis fera. Quando leoni
Fortior eripuit vitam leo? quo nemore unquam
Exspiravit aper majoris dentibus apri?
Indica tigris agit rabida cum tigride *pacem*
Perpetuam.

Juvenal, Sat. XV. 159

As the cedars of Lebanon are higher than the grass of the valley; as the Heavens are higher than the earth; as man is higher than the beast of the field; as the angels are higher than man; as he that ruleth his spirit is higher than he that taketh a city; so are the virtues and victories of Peace higher than the virtues and victories of War.

Far be from us, fellow-citizens, on this Anniversary, the illusions of National freedom in which we are too prone to indulge. We have but half done, when we have made ourselves free. Let not the scornful taunt be directed at us; "They wish to be *free;* but know not how to be *just.*"* Freedom is not an end in itself; but a means only; a means of securing Justice and Happiness, the real end and aim of States, as of every human heart. It becomes us to inquire earnestly if there is not much to be done by which these can be promoted. If I have succeeded in impressing on your minds the truths, which I have upheld today, you will be ready to join in efforts for the Abolition of War, and all preparation for War, as the true and only means of national grandeur.

To this great work let me summon you. That Future which filled the lofty visions of the sages and bards of Greece and Rome, which was foretold by the prophets and heralded by the Evangelists, when man in Happy Isles, or in a new Paradise, shall confess the loveliness of Peace, may be secured by your care, if not for yourselves, at least for your children. Believe that you can do it, and you can do it. The true golden age is before you, not behind you. If man has been driven once from Paradise, while an angel with a flaming sword forbade his return, there is another Paradise, even on earth, which he may form for himself, by the cultivation of the kindly virtues of life, where the confusion of tongues shall be dissolved in the union of hearts, where there shall be a perpetual jocund spring, and sweet strains borne on "the odoriferous wings of gentle gales," more pleasant than the vale of Tempe, richer than the garden of the Hesperides, with no dragon to guard its golden fruit.

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* Ils veulent être libres et ne savent pas être justes. *Abbé Sieyes.*

Let it not be said that the age does not demand this work. The mighty conquerors of the Past, from their fiery sepulchres, demand it; the blood of millions unjustly shed in war crying from the ground demands it; the voices of all good men demand it; the conscience even of the soldier whispers "Peace." There are considerations, springing from our situation and condition, which fervently invite us to take the lead in this great work. To this should bend the patriotic ardor of the land; the ambition of the statesman; the efforts of the scholar; the pervasive influence of the press; the mild persuasion of the sanctuary; the early teachings of the school. Here, in ampler ether and diviner air, are untried fields for exalted triumphs, more truly worthy the American name, than any snatched from rivers of blood. War is known as the *Last Reason of Kings.* Let it be no reason of our Republic. Let us renounce and throw off forever the yoke of a tyranny more oppressive than any in the annals of the world. As those standing on the mountain-tops first discern the coming beams of morning, let us, from the vantage-ground of liberal institutions, first recognize the ascending sun of a new era! Lift high the gates, and let the King of Glory in—the King of true Glory—of Peace. I catch the last words of music from the lips of innocence and beauty;*

> And let the whole earth be filled with his glory!

It is a beautiful picture in Grecian story, that there was at least one spot, the small Island of Delos, dedicated to the Gods, and kept at all times sacred from war, where the citizens of hostile countries met and united in a common worship. So let us dedicate our broad country! The Temple of Honor shall be surrounded by the Temple of Concord, so that the former can be entered only through the portals of the latter; the horn of Abundance shall overflow at its gates; the angel of Religion shall be the guide over its steps of flashing adamant: while within JUSTICE, returned to the earth from her long exile in the skies, shall rear her serene and majestic front. And the future chiefs of the Republic, destined to uphold the glories of a new era, unspotted by human blood, shall be "the first in PEACE, and the first in the hearts of their countrymen."

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* The services of the choir at the Church, where the Oration was delivered, were performed by the youthful daughters of the public schools of Boston.

But while we seek these blissful glories for ourselves, let us strive to extend them to other lands. Let the bugles sound the *Truce of God* to the whole world forever. Let the selfish boast of the Spartan women become the grand chorus of mankind, that they have never seen the smoke of an enemy's camp. Let the iron belt of martial music which now encompasses the earth, be exchanged for the golden cestus of Peace, clothing all with celestial beauty. History dwells with fondness on the reverent homage, that was bestowed, by massacring soldiers, on the spot occupied by the Sepulchre of the Lord. Vain man! to restrain his regard to a few feet of sacred mould! The whole earth is the Sepulchre of the Lord; nor can any righteous man profane any part thereof. Let us recognize this truth; and now, on this Sabbath of our country, lay a new stone in the grand Temple of Universal Peace, whose dome shall be as lofty as the firmament of Heaven, as broad and comprehensive as the earth itself.

APPENDIX.

NOTE A.

Referred to on page 4 and 33.

The following letter has been published at the suggestion of several friends, as illustrating topics considered in the text.

July 6th, 1845.

My Dear ———,

It has occurred to me that you might have thought me wanting in frankness, when I avoided expressing a positive opinion with regard to the righteousness of the resistance our Fathers to taxation by the British Parliament. I am very desirous, on many accounts, of not disturbing that question; "Let the Dead Past bury its Dead." I wish to confine myself to the Present and the Future.

There is one conclusion, following, with irresistible force, from the assumption that our Fathers were justifiable in their course, which neither cf us would wish to have promulgated. It relates to the present condition of *our* slaves. At the time of the Stamp Act and Tea Tax the population of the Colonies amounted to about *two* millions (according to Mr. Burke, though our writers have called it *three;*) their grievance, their slavery, was the necessity of paying a few pence, more or less, on certain things, under the direction of a Parliament in which they were not represented. No just or humane person can fail to perceive that all this was as a feather compared with the rod of oppression, now held by our country over *more than three millions of fellow men.* If *two millions* were justified in resisting by *force* the assumptions of the British Parliament, as contrary to the law of nature, the principles of the common law, and the rights of Freedom; then *a fortiori*, the *three millions* of blacks, into whose souls we thrust the iron of the deadliest slavery the world has yet witnessed, would be justified in resisting by *force* the power that holds them in bondage. Can we proclaim such a truth?

To me, the more humane, the more Christian, the more expedient course, seems to be to leave that great question undisturbed in the coffins of our Fathers. There are minor rules of propriety, not to say of politeness and good breeding, that seem to indicate the same conclusion. The customary tone of reference to the war of the Revolution is in a spirit which would be considered indelicate with regard to any private or personal experience; and, it seems to me, well worthy of consideration, whether the time has not come for nations to put aside their habits of boasting, as indecorous, if not unchristian. The propriety of this course must commend itself, not only to those, who may regard the conduct of the Fathers of the Revolution as questionable, but even to those who think it entirely justifiable. Even if the great *trial by battle* be regarded as a rational mode of determining *justice* between nations; should not the place of encounter be held rather as a field of execution, than of triumph? We do not erect monuments to commemorate the scenes of public executions.

There is another topic to which I venture to draw your attention. You observed to me that, in your opinion, I had gone too far in my condemnation of Dr. Vinton. Perhaps, you did not distinctly understand the terms which I applied to him. They consisted of a strong expression of regret, that any person, who had *voluntarily* become a *minister* of *Christian truth*, should in a pulpit advocate war of any kind, as consistent with the teachings of Christ. Now, I have nothing to say with regard to any statesman, or public character, a layman, who, on grounds of human experience, reason, or policy, advocates what is called *defensive war*, though I do not think such a war possible in the present state of society; all wars being more or less offensive, or having their origin in some offensive movements, and being rude methods of determining justice between nations, utterly without regard to the naked question of *self-defence*. My position was merely that no war is sanctioned by the Gospel; a truth of which the earliest history of Christianity affords many beautiful illustrations. Not being sanctioned by the Gospel, but, on the contrary, being expressly forbidden by the Gospel, is it not improper for a professed minister of the Gospel, to inculcate an opposite doctrine, however strong this doctrine may seem to be founded in the received opinions of men, in worldly ideas of duty, and in our apprehension of the great law of self-defence, which seems to be ordained by nature?

I think that human life may be defended at the cost of human life; in the weakness of my nature, I cannot ascend to the requirements of the Gospel; but my tongue should cleave to the roof of my mouth, if, after consecration as a minister of the Gospel, I was unable to preach its truths. I would not engraft upon the Divine Tree a branch which I had found in my perigrinations on the earth.

But the question, perhaps, may be asked, does Christianity absolutely forbid all wars. I presume that no one supposes that Christ or his Apostles, or St. Paul would have drawn a sword under any circumstances. Since I saw you, I have read a tract, which I had never read before, which seems to place this matter on impregnable ground. You mentioned that you had read Dr. Vinton's sermon. Mr. Gurney's little tract is much shorter, and less argumentative; and I take the liberty of forwarding it, with this note, which has extended so much beyond by intentions. You need not return it. As I propose to allude to Dr. Vinton directly in a note to my Oration, when printed, I should be truly happy to be able to modify in any way the expressions which I deemed it my duty to employ. I should, therefore, regard it as a favor, which I have no right to ask, if, after reading Mr. Gurney's tract, you would suggest any change, consistent with exact truth, of the reprehension of a *professed Christian minister*, who, with subtle logic, in a Christian pulpit, advocates any kind of war.

Asking your pardon for this unwonted intrusion, believe me,

Very faithfully yours,

CHARLES SUMNER.

NOTE B.

Referred to on page 22.

In this note I propose to present a sketch of the history of *Private Wars* and of the *Trial by Battle*. Let it be borne in mind, that the same sentiments which lead us to condemn these as impious and monstrous, equally condemn wars between nations.

PRIVATE WARS. The system of *private wars* may be traced to the dark woods of Ancient Germany, where the right of avenging injuries was treated as a private and personal right, exercised by force of arms, without reference to an umpire, or appeal to a magistrate for decision. Emerging from thence, it prevailed in the early centuries of modern times, in all the countries of Europe, though few traces of it are to be found in England after the Conquest, except in times of civil trouble and commotion. Though the avenging of injuries was the only motive that could legally authorize private wars, yet they often arose from disputes concerning civil property. They were carried on with all the destructive rage which is to be dreaded from violent resentment when armed with force, and authorized by law. The invasion of the most barbarous enemy was not more desolating to a country or more grievous to its inhabitants. Various ineffectual efforts were made for their suppression. A Bishop of Aquitaine, A. D. 1032, pretended that an angel had appeared to him, and brought him a writing from Heaven, enjoining men to cease from their hostilities, and be reconciled to each other. It was during a season of public calamity that he published this revelation; the minds of men were disposed to receive supernatural impressions, and consented to a general peace and cessation of hostilities, which continued for seven years. A resolution was formed that no man should in time to come, attack or molest his adversaries during the seasons set apart for celebrating the great festivities of the church, or from the evening of Thursday in each week to the morning of Monday in the week ensuing, the intervening days being considered as particularly holy, the Lord's Passion having happened on one of these days, and his Resurrection on another. A change in the disposition of men so sudden, and producing a resolution so unexpected, was considered as miraculous, and the respite of hostilities, which followed upon it, was called *The Truce of God* This, from being a regulation or concert in one kingdom, became a general law in Christendom, and was confirmed by the authority of the Pope, and the violators of it were subject to the penalty of excommunication. The custom of private war still continued; but was discountenanced by St. Louis, until finally Charles VI in 1413, issued an ordinance expressly prohibiting it on any pretext whatsoever, with power to the magistrates to compel all persons to comply with this injunction, and to punish such as should prove refractory or disobedient. Later than this there is an instance of a pitched battle in the reign of Edward IV of England, at Nibley Green, in Gloucestershire, on the 10th of August, 1470, between two powerful nobles, William, Lord Berkley, and Thomas, Viscount Lisle. Both brought a large number of men into the field; an hundred and fifty men were killed in the action. After the battle, Lord Berkley repaired to the Castle of Lord Lisle, at Wotton, and it was ransomed as a place taken in regular war. The cause of this feud was the right of succession to the lands of Berkley. The law-suit which gave occasion to this battle, lasted a hundred and ninety two years, and during its progress the Castle of Berkley was once taken by surprise, and its inhabitants thrown into prison; it was, besides, frequently attacked and defended, with much effusion of blood. (Foreign Quarterly Review, No. 69, for April 1845.)

Let us close this sketch in the words of Robertson; in allusion to the regulations for the abolition of private war; "How slow is the progress of reason and civil order! Regulations which to us appear so equitable, obvious and simple, required the efforts of civil and ecclesiastical authority, during several centuries, to introduce and establish them."*

TRIAL BY BATTLE. The *trial by battle*, or the judicial combat, was a formal and legitimate mode of determining disputes. This, likewise, may be traced to the ancient Germans; for it appears by a passage in Velleius Paterculus, (L. II. c. 118) that all questions which were decided among the Romans by legal trial, were terminated among them by the sword; the Roman laws and method of trial, which Quintilius Varus attempted to introduce among them, were regarded as *novitas incognitæ disciplinæ, ut solita armis decerni jure terminarentur*. It afterwards extended to the other countries of Europe, though it does not seem to have established itself completely in France, till after the time of Charlemagne. It seems to have been popular in Lombardy, though Luitprand, King of the Lombards, in one of his laws in 713, expressly admits its *impiety;* Incerti sumus de judicio Dei et quosdam audivimus per pugnam sine justâ causâ suam causam perdere. Sed propter consuetudinem gentis nostræ Longobardorum *legem impiam vetare non possumus*. (Muratori, Rerum Italic. Script. t. 2. p. 65.) Like the other ordeals, by the burning ploughshares, by the holding hot iron, by dipping the hand in hot water, or hot oil, it was a presumptuous appeal to Providence, under an apprehension and hope that Heaven would give the victory to him who had the right. It was the child of superstition and brute force.

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* The subject of private war is treated with an exactness, perspicuity and comprehensiveness by Dr. Robertson, (Hist. of Charles V. Vol. I. note 21) which have inspired the warm commendation of Mr. Hallam. (History of Middle Ages, Vol. II.—155. cap. 2. pt. 2.) It also occupies the attention of our countryman (Mr. Wheaton) in his History of the Northmen; and of the amiable and humane historian of France, Sismondi. (Histoire des Français, Tome VIII. 72-77.)

It seems probable that the trial by battle was originally permitted, in order to determine points respecting the personal character, or reputation of individuals, and was afterwards extended, not only to criminal cases, but to questions concerning property. In the year 961, a controversy concerning the Church of St. Medard, whether it belonged to the Abbey of Beaulieu, was terminated by judicial combat. The Abbot Wittikindus considered it as the best and most *honorable* mode of determining a grave point of law. "It was a matter of doubt and dispute," says the Abbot, "whether the sons of a son ought to be reckoned among the children of the family, and succeed equally with their uncles if their father happened to die while their grandfather was alive. An assembly was called to deliberate on this point, and it was the general opinion that it ought to be remitted to the examination and decision of judges. But the Emperor, [Otho II.] *following a better course, and desirous of dealing* HONORABLY *with his people and nobles, appointed the matter to be decided between two champions*. He who appeared in behalf of the right of children to represent their deceased father was victorious; and it was established, by a perpetual decree, that they should hereafter share in the inheritance together with their uncles." This was under the German Emperor, Otho II. in the tenth century. But the folly of man did not end here. A question of religion, as well as of law, was submitted to the same arbitrament. In the eleventh century the question was agitated in Spain, whether the Musarabic Liturgy which had been used in the Churches of Spain, or the Liturgy approved by the See of Rome, differing in many particulars from the other, contained the form of worship most acceptable to the Deity. The Spaniards contended zealously for the liturgy of their ancestors. The Popes urged the reception of that which had their infallible sanction. The question was referred to the trial by battle. Two knights in complete armor entered the lists. John Ruys de Matanca, the champion of the Musarabic Liturgy, was victorious.

While the trial by battle subsisted, proofs by charter, contracts or persons, became ineffectual. When a charter or other instrument was introduced by one of the parties, his opponent might challenge it, affirm that it was false and forged, and offer to prove this by combat. So he might accuse a witness, whom he suspected of being about to give testimony against him, of being suborned, give him the lie, and challenge him to combat; and if the witness was vanquished, no other evidence was admitted, and the party by whom he was summoned lost his cause. The reason given for obliging a witness to accept of a defiance, and to defend himself by combat, contains the idea of what is called the *point of honor;* "for it is just, that if any one affirms that he perfectly knows the truth of any thing, and offers to give oath upon it, that he should not hesitate to maintain the veracity of his affirmation in combat." Leg. Burgund. tit. 45.

The trial by battle extended itself so generally in France, if not in other parts of Europe, as at one time to supersede all the other ordeals, which were regarded also as judgments of God, and even the mode by proofs. In Orleans it was restrained to civil matters, involving upwards of six sous in amount. [Montesquieu, Esp. des Loix. Liv. 28, cap. 20.] Regulations of great minuteness were established with regard to the ceremonies; and this *monstrous usage*, as it is called by Montesquieu, was reduced to a system, and illustrated by an extensive jurisprudence. Men, says this ingenious Frenchman, subject to rules even their prejudices. Nothing was more contrary to good sense, than the judicial combat, but being once recognised, it was conducted with a certain prudence. In this respect, as in many others, it bears a resemblance to the great *trial by battle* which still prevails between nations; and which has its artificial and complex regulations, the so called laws of war.

The field for the combat was selected with care; and in many places there was an open space for this purpose in the neighborhood of the Church. We learn by an accidental notice of Froissart, that there was a tribune attached to the walls of the Abbey of St. German des Prés, in Paris, which was destined for the judges of the combat, and which overlooked the meadow *aux Clercs*, which served for a field. (Froissart, c. 383, p. 290; Sismondi, Histoire, X. 514.) The ground being selected, a large fire was kindled, and a gallows erected for the vanquished. Two seats covered with black were also prepared for the combatants, on which they received certain admonitions, and were made to swear on the Holy Evangelists that they had not had recourse to sorcery, witchcraft, or incantation. They had previously attended the celebration of mass, the forms of which for such occasions are still to be found in certain old missals, where it is called *missa pro duello*. In certain cases of physical inability, and where women and the clergy were concerned, a battle by proxy was allowed, and regular bravoes, called *champions* were hired for this purpose; dreadful trade, it would seem, since the right hand of the champion was lopped off in the event of his being worsted. Meanwhile the principals were kept out of the lists with ropes about their necks, and he who was beaten by proxy was forthwith hanged in person, although in certain cases he was allowed to be decapitated. (Millingen, Hist. of Duelling, Vol. I. 31, 32; Montesquieu, Esprit des Laix, Liv. 28, cap. 19.)

In England, trial by battle was conducted with peculiar form, in the presence of the judges in their scarlet robes, who presided over the field which was duly set out of sixty feet square, and enclosed by lists. It appears that trials of this kind were so frequent, that fines, paid on these occasions, made no inconsiderable branch of the King's Revenue. (Madox, Hist. Excheq. Vol. 1. 349.) For sometime after the conquest the only mode of trying a writ of right, for the determination of the title to real property was this barbarous proceeding; but Henry II, by consent of parliament, introduced the *grand assise*, a peculiar species of trial by jury, in concurrence therewith; giving the party against whom the action is brought his choice of either the one or the other. The establishment of this altenative is pronounced by Glanville, his Chief Justice, and probably his adviser therein, a certain benefit. He says; *duelli casum declinare possint homines ambiguum.* Jus enim, *quod post multas et longas dilationes vix evincitur per duellum*, per beneficium istius constitutionis commodius et acceleratius expeditur. (l. 2. c. 7.) A trial by combat was appointed in England in 1571, under the inspection of the judges of the Court of Common Pleas; but Queen Elizabeth interposed her authority, and enjoined the parties to compound the matter; yet in order to preserve what was called their *honor*, the lists were marked out, and all the forms previous to the combat were observed with much ceremony. (Spelm. Gloss. veb. *campus*, p. 103.) The last time that this trial was actually awarded in England, was in 1631, between Lord Rae and Mr. Ramsay. King Charles I. appointed by commission, a constable of England to preside over it, who proclaimed a day, on which the combatants were to appear with a spear, a long sword, a short sword, and a dagger; but this was accommodated without bloodshed. (Hargrave, State Trials, XI. 124.) The form of proceeding fell into desuetude, overruled by the advancing spirit of civilization; but, to the disgrace of the English law, it was not legislatively abolished till in 1817 the right to it had been distinctly claimed in the Court of King's Bench. Abraham Thornton, in an appeal against him for murder, when brought into Court, pleaded as follows; "Not guilty, and I am ready to defend the same by my body;" and thereupon taking off his glove, he threw it upon the floor of the Court. The appellant did not choose to submit to this trial, and abandoned his proceedings. In the next session of parliament, trial by battle was abolished in England. (Blackstone, Com. Vol. III. 337, Chitty's note.) The Attorney General, in introducing the bill for this purpose, remarked, that "if the party had persevered, he had no doubt the legislature would have felt it their imperious duty to interfere and pass an *ex post facto* law, *to prevent so degrading a spectucle from taking place.*" Annual Register, Vol. LXI. p. 52. (1819.)

☞The principal modern authorities for the history of the judicial combat are the admirable note by Robertson (History of Charles V. Vol. I. note 22); Montesquieu (Esprit des Lois. Liv. 28, cap. 17–29) whose luminous mind has cast upon it a brilliant flood of light; Blackstone (Commentaries, Vol. III. 337–

351; Vol. IV. 346–348, 419.) Hallam (Middle Ages, Vol. I. 187, cap. 2, pt. 2;) the amiable and humane Sismondi (Histoire des Francais VIII. 77–78); Guizot, in a work of remarkable beauty of historical inquiry and depth of philosophy, more grave than the Esprit des Lois, and enlightened by loftier ideas of human progress and virtue, (Histoire de la Civilization en France depuis la chute de l' Empire Romain, Tome IV. 89, 149–166); our learned countryman, Mr. Wheaton, (History of the Northmen, Cap. III and XII); and Millingen (History of Duelling, 2 vols.) a writer, hardly deserving the character of an authority, and utterly unworthy a place in this fellowship of authors.

NOTE C.

Referred to on page 29.

A Congress of Nations and Arbitration. It is intended to offer in this Note, a sketch of the efforts of private men, and the examples of Nations tending to a Congress of Nations, or an established system of Arbitration without appeal to War.

The duty and importance of *Universal Peace* was recommended by the early Fathers of the Christian Church. The character of the *good Man of Peace* was described in the 15th century, in that work of unexampled circulation, which has been translated into all modern languages, and republished more than a thousand times. (De Imitatione Christi by Thomas à Kempis, Lib. 2. cap. 3.) The writings of Erasmus at the close of the same century, abound in the spirit of Peace. In the 17th century, Nicole, a friend of Pascal, one of the fellowship of Port Royal, and one of the highest names in the Church of France, in his *Essais de Morale*, in six volumes, gave to the world *Traité des Moyens de conserver la Paix avec les Hommes*, a treatise which Voltaire terms "a masterpiece to which nothing equal has been left to us by antiquity." (Siecle de Louis XIV. See Hallam's History of Literature, Vol. III. 383, part IV. cap. 4) It is to be found in a recent edition of the *Pensées de Pascal*. The reader of our day cannot perceive in it the exalted merit which drew forth the eulogy of Voltaire. At the beginning of the 18th century appeared the *Projet de Paix Perpetuelle*, in three volumes, by the Abbé Saint Pierre, which the benevolent author, by a species of pious fraud, attributed to Henry IV. and his Minister Sully, with the view of recommending it to the adoption of the Sovereigns and Ministers, to whom the authority of these great names would be more imposing than the intrinsic merit of the scheme itself. His ideas were characterised by the profligate minister and cardinal Dubois as *les reves d'un homme de bien.* Afterwards in 1761, that great genius Rousseau published a little work to which he modestly gave the title, *Extrait du Projet de Paix perpetuelle de M'l'Abbé de Saint Pierre.* Without appealing to those higher motives, for addressing which to sovereigns Saint Pierre had most unjustly incurred the ridicule of practical statesmen, such as the love of true glory, of humanity, and a regard to the dictates of conscience and the precepts of religion, Rousseau merely supposes princes to be endowed with common sense, and capable of estimating how much their interests would be promoted by submitting their respective pretensions to the arbitration of an impartial tribunal, rather than resorting to the uncertain issue of arms, which even to the victor cannot bring adequate compensation for the blood and treasure expended in the contest. (See Wheaton's History of the Law of Nations, part 2. § 17.)

There are fragments of a *Project of Perpetual Peace*, by the late Jeremy Bentham, recently published from MSS. bearing date from 1786 to 1789, under the superintendence of his Executor, Dr. Bowring, (Part 8. pp. 537–554, London, 1839,) which are marked by the penetrating sense and humanity of their author.

Of late years, several writers of the different schools of German philosophy, have proposed the establishment of an Amphictyonic council of Nations, by which their mutual differences might be judicially settled, and the guilt and misery of war forever abolished among civilized nations. One of the most remarkable of these projects of Perpetual Peace was that published by Kant in

1795. He says; "What we mean to propose is a general Congress of Nations, of which both the meeting and the duration are to depend entirely on the sovereign wills of the League, and not an indissoluble Union like that which exists between the several States of North America founded on a Municipal constitution. Such a Congress, and such a League, are the only means of realizing the idea of a true public law, according to which the difference between nations would be determined by civil proceedings as those between individuals are determined by civil judicature, instead of resorting to war, a means of redress worthy only of barbarians." Kant, Rechtslehre, Zweiten Theil, § 61. The principles of Kant on this subject have been contested by another celebrated German Philosopher, Hegel, in the spirit of one whose mind was so imbued with the history of the Past, as to be insensible to the charms of Peace. A state of perpetual peace, he says, if it could be realized would produce a moral stagnation among nations. Hegel, Philosophie des Rechts, herausgegeben vone Gans. § 321-339. See also Wheaton's History of the Law of Nations, part 4, § 36, 37.

Most important information on this subject is collected in the volume of Prize Essays published by the American Peace Society, and in a little tract, entitled, a Congress of Nations, by the same Society. The useful life of the late William Ladd was devoted to the diffusion of information on this subject.

A General Peace Convention was held in London, in June, 1843, composed of delegates from various countries, which was organized by the choice of Charles Hindley, Esq., M. P., as President, and the Marquis de la Rochefoucault Liancourt, a Member of the French Chamber of Deputies as Vice President. The Convention was graced by the presence of many persons, well-known for their labors of philanthropy. Among those prominent in political life who took a part in its proceedings, were Lord Robert Grosvenor, William Sharman Crawford, M, P., Richard Cobden, M. P., Joseph Hume, M. P., W. Ewart, M. P., Dr. Bowring, M. P.

The Convention was called together on the principle, "that war is inconsistent with the spirit of Christianity and with the true interests of mankind." The following are among the Resolutions which it adopted.

On Arbitration instead of War. "That this Convention earnestly recommends to Governments, Members of Legislative bodies, and public functionaries, the adoption of *the principle of arbitration* for the adjustment of all international differences; and that stipulations be introduced into all international treaties to provide for this mode of adjustment; whereby recourse to war may be entirely avoided between such nations as shall agree to abide by such stipulation."

On a Congress of Nations. "That while recommending the plan of Judge Jay, which proposes that Nations should enter into treaty stipulations to refer their differences to the arbitration of a friendly power, as a measure the most *immediately* available for the prevention of war, we still regard, as peace societies have from their origin regarded, especially as set forth by the late WILLIAM LADD, Esq., *a Congress of Nations to settle and perfect the code of international law, and a High Court of Nations to interpret and apply that for the settlement of all national disputes*, as that which should be further kept in view by the friends of peace, and urged upon the Governments as one of the best practical modes of settling peacefully and satisfactorily such international disputes."

On Preparation for War. "That in the opinion of this Convention, preparations for war are so many incentives to war, and ought to be discouraged by all friends of peace."

There are now Peace Societies at London, at Paris, at Brussels, at Geneva, all coöperating in this holy cause. The American Peace Society is the oldest, and has already been the means of great good. It has adopted as a fundamental article in its constitution the declaration, *that all war is forbidden by Christianity.* Its officers and principal members include some of the most prominent divines and public characters of our country; among whom are the President, S. E. Coues, Rev. Andrew P. Peabody, of Portsmouth, N. H.; Rev. Charles Lowell, of Boston, Rev. Ezra S. Gannett, of Boston, Rev. Francis Wayland, of Providence, R. I.; Rev. C. E. Stowe, of Cincinnati; Rev. Howard Malcolm, of Georgetown, Ky.; Theodore Frelinghuysen, of New York; William W. Ellsworth, of Hartford, Conn.; Gerrit Smith, of Peterborough, N. Y.; William Jay, of Bedford, N. Y.; Professor Greenleaf of Cambridge; Samuel A. Eliot, of Boston; Sidney Willard, of Cambridge; Thomas W. Ward, of Boston; Rev. William Jenks; Rev. Orville Dewey, of New York; Jonathan Chapman; Martin Brimmer, of Boston; Amasa Walker.

Of a society, composed of such names, subscribing to such a principle,—it would be difficult for Southey to repeat the gibe, which he allowed himself to utter in his Colloquies on the Progress and Prospects of Society, I. 224; "I say nothing of the Society for the Abolition of War, (Heaven bless the mark!) it has not obtained sufficient notice even to be in disrepute."

History furnishes various illustrations of the principle of a Congress of Nations, under the name of Councils, Leagues, Diets or Congresses. 1. *The Amphictyonic Council*, embracing at first twelve and finally thirty-one states or cities was established in the year 497 B. C. Each city sent two deputies, and had two votes in the Council, *which had full power to discuss all differences* which might arise between the Amphictyonic cities. 2. *The Achchæan League*, founded at a very early period, and renewed in 284 B. C. Although each member of the League was independent of the others, yet they formed one body, and so great was their reputation for justice and probity, that the Greek cities of Italy referred disputes to their arbitration. 3. Passing over other confederacies of antiquity, we come down to the *Hanseatic League*, begun in the twelfth century, and completed near the middle of the thirteenth. It comprised at one time nearly eighty cities. A system of international law was adopted in their general assemblies. While pursuing a pacific policy, they flourished beyond all precedent. 4. In the twelfth and thirteenth centuries in Germany, various other cities and nobles entered into alliances and associations for mutual protection, under various names, as the *League of the Rhine*, and of *Suabia*. (Robertson, Hist. of Charles V. Note 21.) 5. *The Helvetic Union* begun so long ago as 1308, and has preserved peace among its members during the greater part of five centuries. It is covenanted by this Union that all public dissentions shall be settled between the parties in an amicable manner; and, with this view, particular judges and arbitrators are appointed with power to compose any strife that may arise. 6. *The Grand Scheme of Henry IV*, of France, for the blending of the Christian States of Europe in one Confederacy, had its rise more in selfish ambition, than in true humanity; but it has served to keep before Christendom the idea of the same common tribune for the great brotherhood of nations. 7. *The United States of America* furnish an instance of the union of twenty-six different States, all having peculiar interests, in bonds of peace, with a tribunal which has jurisdiction over the controversies of the States.

William Penn once said of the scheme of Henry IV; "his example tells us that *it is fit to be done;* Sir William Temple's History of the United Provinces shows, by a surpassing instance, that *it may be done;* and Europe, by her incomparable miseries, that *it ought to be done.*"

It seems, in the order of Providence, that, the families, tribes and nations of the earth should tend, by means of association, to a final *Unity*. The seven kingdoms of England became *one* under the Saxon Edgar; Wales was forcibly absorbed into England under Edward I; Ireland, after a protracted resistance, was finally absorbed under Edward III; Scotland became connected with England by the accession of James I. to the throne of the Tudors, and the two countries afterwards, under Queen Anne, were united by an act of peaceful Legislation. The great nations of France and Austria have passed through similar stages; disjointed fragments and scattered limbs, have been brought together; provinces, which once possessed an equivocal independence, now feel new power and happiness in their common union. This is the great process of chrystallization, which is constantly going on among nations. The next stage will be the association of Christian States.

Our country possesses peculiar advantages for taking the initiative in the diplomatic measures, by which this great event is to be hastened. A Committee of Congress, in a Report, ascribed to the late Mr. Legaré, recommended in

1838, "a reference to a third power of all such controversies as can be safely confided to any tribunal unknown to the Constitution of our country. Such a practice, (say the Committee) will be followed by other powers, and will soon grow up into the customary law of civilized nations." The Legislature of Massachusetts, by a series of Resolutions, passed with great unanimity in 1844, declare it their "earnest desire that the government of the United States would, at the earliest opportunity, take measures for obtaining the consent of the powers of Christendom to the establishment of a General Convention or Congress of Nations, for the purpose of settling the principles of international law, and of organizing a high court of nations, to adjudge all cases of difficulty which may be brought before them by the mutual consent of two or more nations." Mr. Jay, in his work on *Peace and War*, while he foresees the ultimate establishment of a Congress of Nations, recommends as a preliminary step the formation of Treaties with the different powers of Christendom, providing for the adjustment of difficulties by *arbitration.*

There is no work to which an American statesman may devote himself, in the hope of fame, or in the desire to be of service to the world, that can compare in grandeur with the cause which is now most earnestly commended to all who have any influence over the public mind. Let the President of the United States empower our Ministers at all the Courts to which they are accredited to open negociations at once for this holy purpose.

NOTE D.

Referred to on page 33.

DR. VINTON'S SERMON. The sermon of the Rev. Dr. Vinton, pronounced before the Ancient and Honorable Artillery Company, is a most disheartening production. It is the subtle effort of an excellent mind to reconcile what he calls defensive war (he does not show that such a war is possible, in this age, among Christian nations) with the injunctions of Christianity, severing and dividing, as with profane metaphysical scissors, a most intelligible verse of the Gospel, wholly neglecting others of great and controlling significance, and seeking to overturn one of its most blessed truths. The sermon was delivered on a public occasion of ceremony, before a military body; it was voted by the martial critics "able, eloquent, and interesting," and at their request was printed. It has been praised in newspapers; though, to the credit of a wakeful press, which now exercises a restraining influence over the clergy, as well as the laity, its pernicious doctrines and its unfair reasoning have already been rebuked by two able writers in different journals. It has thus become public property, and as such, I venture to dwell on its character.

This sermon is particularly sinister at this moment, when the country stands on the verge of two wars, which will be proclaimed to be defensive in their character, though having in them no element of *self-defence*, and being mere trials of title to distant territories. It is also unfair in its peculiar mode of treating the question. There is an honest hardihood in the military ardor with which Grotius (De jure Belli ac Pacis) and, since him, Mr. Lieber, (Political Ethics) march against the direct injunctions of the Saviour, the *ipsissima verba* of the Gospel, treating them as of little or no account, as extravagances or exaggerations. But Dr. Vinton founds his defence of war on a single verse of the Gospel, leaving all others untouched, and even concealing them from the view. In this way he may avoid seeming directly to stultify Him whom he calls Master, by declaring that his words do not mean what they seem to mean; that He did not know what he meant when he said, "Ye have heard that it hath been said, Thou shalt love thy neighbor and hate thine enemy; but I say unto you, Love your enemies;" and that Paul indulged in an impracticable extravagance when he said, "Overcome evil with good." But placing his whole argument upon a single verse, the whole superstructure rushes to the earth when the interpretation by which it is supported is shown to be inconsistent with the general character and teachings of Christ; inconsistent with the fair and natural sense of the words in the English version; utterly and flagrantly inconsistent with the plain and grammatical construction of the original Greek; so much so as to lead to the conclusion that Dr. Vinton did not refer to the original Greek, or did not understand it. I am indebted to a friend, whose name it would be superfluous in me to mention, for the following masterly criticism of Dr. Vinton's treatment of this verse. After reading this no person can regard it otherwise than monstrous to found a scriptural defence of so great a crime as War on an unfair, ignorant and ungrammatical perversion of a few short words in the Gospel of Peace.

To those who are desirous of reading a natural and unanswerable expression of the true doctrine of Christianity on the subject of war, where the different injunctions of the Saviour seem to come together and arrange themselves, not by subtle force, but spontaneously and by divine harmony, I would refer to the elaborate work of Dymond on War; to the Essay by Gurney, entitled "War unlawful under the Christian dispensation;" the Address of the Rev. Andrew P. Peabody, before the American Peace Society; and the truly Christian sermon of Rev. Mr. Bogue of England.

If the habit of delivering sermons before a military company should be continued, and another Christian minister be found consenting another year to degrade the "blessedness" of the Gospel to the "blasphemy" of War, I hope he will be willing to attend to the following points. *First*, the numerous direct texts in the Gospel all of them embracing War in their general condemnation, or enjoining Peace. *Second*, the character of Christ and his immediate disciples, and the question, whether it is possible to suppose Christ or the youthful John or even the fiery Peter, doing duty as soldiers, either in the militia, or the regular army, or preaching sermons in praise of the profession of arms, or riding as chaplains of a military parade. *Third*, the history of the Christian Church during the first four centuries, showing conclusively that it was then regarded as wrong in a Christian to bear arms. *Fourth*, if any kind of war is consistent with Christianity, let him explain precisely what, to the end that its sacred sanctions may not be thrown over all wars—a piratical contest for Texas or a mere quarrel about the title to Oregon. *Fifth*, if he should assert that what are called defensive wars are consistent with Christianity, let him explain precisely what is meant by a defensive war, and show the possibility—the most distant possibility—of the occurrence of such a war in this age among Christian nations. *Sixth*, if he should conclude, that Christianity forbids all wars; or all wars but defensive wars, while it is impossible and monstrous to suppose the case of such a war in our age, let him then consider whether all preparations for war are not improper, and whether a Christian minister is not justly reprehensible who lends them the sanction of his presence.

The following criticism, which I hasten to present, will render it necessary for any successor of Dr. Vinton in the church militant, to occupy a position on some other verse of the Gospel than that on which he chose to throw up his entrenchments. As the majestic elms on the Boulevards of Paris, affording a generous shade to the people, were hewn down to become barricades in the Revolution of July, so the blessed texts of the Gospel, under whose broad and sacred shelter all mankind might repose in Peace, from generation to generation, are felled to the earth, and converted into defences of War.

The first four pages of Dr. Vinton's Artillery Election Sermon contain a good and Christian-like exposition of the text "If my kingdom were of this world, then would my servants fight." But as this plain and pious course of remark is not adapted to the military exigencies of the occasion, it is necessary for the preacher to change front, and turn his battery, as it were, upon the position he began by defending. This manœuvre, more martial than clerical, is executed by substituting for the words of the Saviour, a paraphrase which contradicts them. They have "an indirect meaning" says Dr. Vinton, and so, acting upon the principles of Polonius's advice to Laertes, he proceeds by "indirections" to "find directions out." "Their paraphrase," he continues, would be thus: "If my kingdom were of the sort which my enemies supposed, if the object of my government were, specially to establish personal security, to promote social comfort, or to maintain national independence; or any other objects for which human governments are formed; then it would be both necessary and right to resist the injustice which has delivered me to this tribunal."

The formal division of the Scriptures into minute portions called verses, gives great license to ingenious misinterpretation and is the occasion of much ecclesiastical sophistry. The preacher takes a sentence, clause, or even a single phrase out of its connection, and instead of interpreting it in the broad light of the general truths of Christianity, wrests it from the combination in which it stands, and makes it the theme of a sermon. Like the ancient Sophists he can thus sustain any side of any question "Hang all the law and prophets" is a familiar and ludicrous instance of textual perversion; but it is not more untenable and distorted than the graver paraphrase on which Dr. Vinton has founded the main part of his discourse. Where did he learn that the language of Christ contains such double and contradictory meanings as his paraphrase superinduces upon the text? that besides the idea which the Saviour's words obviously expressed, there was an *arriére pensée*, a sort of mental reservation, to be drawn out ages after they were spoken, but sealed against the understanding of the men to whom they were addressed by the living tongue?

The first thing that strikes the mind on reading the paraphrase is that this interpretation puts into the mouth of the Lord a platitude and a paralogism. On such an occasion it would have been a very inept proceeding to enter even by implication, upon a general political thesis. Next it would have been an extraordinary piece of logic to affirm that force might rightly be used in establishing such imperfect and irreligious organizations as human governments always have been, and yet that it would not have been right to use force to protect the perfect innocence and godlike sanctity of Christ, in his labors to reform and save the world. If force could be rightly used in the former case, it might *a fortiori* be rightly used in the latter. If wars may rightly be waged in defence of the imperfect and the sinful, they may for still stronger reasons be rightly waged for the perfect and the sinless.

The circumstances under which Christ addressed to Pontius Pilate the remarkable words "My kingdom is not of this world; if my kingdom were of this world, then would my servants fight that I should not be delivered to the Jews," place their meaning beyond a doubt.

The Saviour, well knowing that his ministry on earth was nearly finished, had met his disciples and delivered to them his last and most affecting instructions. In the mean time the Jewish authorities, the Priests and Pharisees and Scribes, whose hardened hearts had been pierced, and whose hypocritical lives had been rebuked by the divine teachings of the Son of Man, corrupted the fidelity of one of his professed followers, who agreed for a sum of money to betray his master into their hands. Wrought up to fury by Christ's searching denunciations, which their consciences had been utterly helpless to gainsay, they were resolved to shed his blood, be the means and consequences what they might. To make sure of their victim they called in the aid of a military band; the ready instruments of every deed of wickedness and blood;—and appointing the traitor, Judas Iscariot, their guide, despatched them in martial array, to steal upon the holiest of the messengers of God in the silence and retirement of the night and to arrest him, with every circumstance of insult, like a vulgar malefactor. But when the myrmidons of guilt and hate were led by the betrayer into the presence of that mysterious man, unable to stand before the terrors of his countenance, "they went backward and fell to the ground." Overcoming at length the awe which had struck them powerless, the rude soldiery laid their hands on Jesus and bound him. They conducted him first to the house Annas, and then arraigned him before Caiphas, the High Priest of that year. At the palace of this Priest, the Sanhedrim, or Supreme Council of the Jewish nation, consisting of the bitterest foes of Jesus who were bent with unpitying rage upon his murder, was hurriedly assembled: and the brief and passionate debate ended with the predetermined judgment of death. But the Jews were under a foreign yoke. Judea was but a province added by conquest to the vast empire of Rome. A procurator, representing the imperial power was stationed as Governor at Jerusalem. Knowing the obstinate and rebellious character of the people, it was his duty to watch with sleepless eye every sign of insubordination in the conquered province. Without his sanction, no capital sentence could be carried into execution. And so the procession formed anew, priests and rabbis and the martial array, to conduct the serene and unresisting victim to the judgment hall of Pilate. This company, stranger than was ever assembled before or since in the history of the world, approached the Roman tribunal just as the morning was breaking over the dread scene. The tragedy of the Saviour's life, crowded with eternal consequences to the happiness of man, was swiftly drawing towards its catastrophe. His enemies, maddened by unreasoning hatred, shrank not from the foulest means to bring about their fell intent. Incident after incident in the awful drama, pregnant with inappreciable significance for the destiny of the human soul, pressed the great action forward with startling rapidity.

The Jews resolved to employ the easily excited jealousy of the Roman governor to strike their victim down. To accomplish their fiendish purpose the more readily, they charged him with a political design against the sovereign power; a design, which in their gross conceptions of the predicted Messiah, they imagined and hoped he would appear on earth to execute; an imagination and a hope which the language and actions of Christ had pointedly contradicted again and again, and thus added to the exasperation which they felt on other grounds, against his person. They charged him, in effect, with a conspiracy against the Imperial power; with intending to make himself a king and to shake off the Roman yoke; and to substantiate this treasonous charge, they dishonestly perverted the figurative language which they had heard him use on several occasions. They could not enter the pretorium with their destined victim, because the feast of the Passover was near at hand and they desired to eat of it, which they could not religiously do, if they went in—good, pious men that they were—but they could knowingly forge a lie, and for the sake of shedding innocent blood, swear falsely to a crime which by the Roman law was punishable with an ignominious death upon the cross. Pilate, having listened outside of the hall, to the accusation so insidiously shaped and adapted to rouse all his Roman fears, suspicions and prejudices against the prisoner, reëntered the Pretorium and questioned him *upon this very point.* What was Christ's answer? A positive, intelligible asseveration, as plain as words could express any thought of the mind and as exclusive of the possibility of any supposed hidden meaning, as the most transparent singleness of heart could make it; "My kingdom is not of this world; if my kingdom were of this world, then would my servants fight for me that I might not be delivered to the Jews." All these words of the Saviour are limited by the last clause, "that I might not be delivered to the Jews," to his own case; nor, whatever their meaning may be, can they be tortured by any ingenious sophistry into a general thesis, express or implied, upon the rightfulness of sustaining government by force, still less into an authoritative sanction of any kind of war. What Christ said he meant; no more, and no less. Pilate understood his words, and was satisfied of his innocence. But if Christ had said what the preacher's paraphrase represents him to have indirectly implied, Pilate could not possibly have gone out, and declared to the Jews, that he found no fault in him; for Pilate must have understood him to mean, that though as a matter of fact, he entertained no such design as was charged upon him by the Jews, still had he been a temporal leader, he might rightfully have maintained his cause by an appeal to arms; that is, under the peculiar circumstances of the case, Pilate must have understood Christ to maintain and declare a set of political or patriotic principles wholly at variance with submission to the Roman Supremacy. Looking at the case then from the Roman point of view, and under a sense of weighty responsibility to the central power whose delegate he was, he would have said to the Jews with perfect truth, "I cannot indeed, find that this man has been guilty of any overt act of rebellion; but he is a dangerous person and disloyal to Rome; he declares that were he a temporal prince, he might rightfully draw the sword. When he says that his kingdom is not of this world, he is doubtless making a cunning fetch to extricate himself from the present danger. It is a distinction without a difference. I am not to be cheated with these fraudulent subtleties. The principles he professes to my face, would justify him in rebelling whenever he might think he possessed the ability to command success. It is my duty to Rome to put him out of the way. Do with him what you will." But Pilate drew no such meaning from the Saviour's words; he saw with perfect clearness into the true state of the case, and told the Jews, not that he could discover no act *ἔργον*, but that he perceived no fault, or ground of charge, *αἰτίαν*, against the prisoner, and with importunate eagerness urged them to let him go. The Jews could not help perceiving that their attempt to fasten upon Christ a political crime, had so far failed, nor did they, until some time afterwards repeat the charge, but in the senseless, brutal rabidness of disappointed malice, shrieked out, "Crucify him, crucify him. We have a law, and by our law, he ought to die, because he has made himself a Son of God."

If Christ meant what the pharaphrase makes him to imply, he was guilty of a dishonest trick; a jesuitical playing with the ambiguities of human speech. This conclusion any reader of common sense must arrive at, upon a careful consideration and comparison of the incidents in the marvellous history. But an examination of the Greek original of the passage in which these transactions are related, makes assurance doubly sure The interpretation of Dr. Vinton will be defended by no tolerable Greek scholar on philological or hermeneutic grounds. The words are, "*Ἡ βασιλεία ἡ ἐμὴ ὀυκ ἔστιν ἐκ τοῦ κόσμου τούτου. Εἰ ἐκ τοῦ κόσμου τούτου ἦν ἡ βασιλεία ἡ ἐμὴ, οἱ ὑπηρέται ἂν οἱ ἐμοὶ ἠγωνίζοντο, ἵνα μὴ παραδοθῶ τοῖς Ἰουδαίοις· νῦν δὲ ἡ βασιλεία ἡ ἐμὴ οὐκ ἔστιν ἐντεῦθεν.*" It should be remarked, *first*, that the preposition *ἐκ*, translated in our English version *of*, means *from*, and denotes *origin* from a place or source; *second*, that the two expressions on which the sense of the passage depends, each being qualified, one by the particle *εἰ*, the other by the particle *ἂν* stand to each other in the relation of *conditioning* and *conditioned* clauses; *third*, that the verbs *ἦν* and *ἠγωνίζοντο* are in the indicative mode; *fourth*, that they are in the imperfect tense; and *fifth*, that the word *κόσμος* *world* is used by the sacred writers in a bad sense, as contrasted with goodness, piety or God. Literally translated then, the passage would run. "My kingdom is not from this world; if my kingdom were from this world then my servants would fight that I might not be delivered to the Jews. But, now, my kingdom is not from hence." Expanding the language, not for the sake of paraphrasing, but of illustrating it, the sense may be thus expressed. "My authority does not, like that of temporal rulers, originate in this evil world; if my authority did originate in this world, like that of temporal rulers, then (as a matter of fact, not of right, *ἂν ἠγωνίζοντο*, indicative mode) would my servants be fighting now (imperfect tense) to defend me from my enemies. But my kingdom is from a higher source; my kingdom is a spiritual authority, bestowed on me by the Heavenly Father. I am the Prince of Peace. I have nothing to do with violence, rebellion and war; but my mission is to teach those doctrines which will forever put an end to violence, rebellion and war. Were it otherwise, I should not be standing before thy tribunal, in this lowly guise and apparently helpless condition; but sword in hand, like other temporal chieftains, I should be leading armed cohorts, and drenching the earth in blood. But I say again my authority comes not from hence; and deeds like these have no sanction from me or from my doctrines."

The laws of the language imperatively require this construction. The principles of interpretation which Pilate instinctively applied require it. Had the verbs in the two selected clauses been in the optative mode, *εἶεν*, and *ἀγωνίζοιντο*, then a correct translation would have been, "If my kingdom were of this world, then *might* my servants fight"—though even in this case, the *rightfulness* of fighting would not necessarily be inferred. To justify such an interpretation even with the optative mode, the verb *ἀγωνίζοιντο*, *might fight*, would need to be qualified by the adverb *ὄρθως* or *δικαίως*, *rightly* or *justly*.

The thoughtless paraphrase in the Artillery Election Sermon is an example of that ecclesiastical sophistry which in all ages of the Christian Church, except the earliest, has struggled, sometimes consciously, sometimes unconsciously, to abase the lofty principles of the Gospel to the low standard of the existing contemporary world.

NOTE E.

Referred to on page 42.

Dr. Wayland's Views on War. When the foregoing Oration was delivered, I was not aware that its principles were sustained so entirely by an authority like Dr. Wayland, in a work, Elements of Moral Science, which, it is grateful to know, enjoys an immense circulation, and cannot fail, therefore, to exercise an important influence over the youth of the country. It is with great pleasure that I make the following extract, to which I invite the particular attention of the reader.

"Let us suppose a nation to abandon all means, both of offence and of defence, to lay aside all power of inflicting injury, and to rely for self-preservation solely upon the justice of its own conduct, and the moral effect which such a course of conduct would produce upon the consciences of men. How would such a nation *procure redress of grievances?* and how would it *be protected from foreign aggression?*

I. *Of redress and grievances.* Under this head would be comprehended violation of treaties, spoliation of property, and ill-treatment of its citizens.

I reply, 1. The very fact that a nation relied solely upon the justice of its measures, and the benevolence of its conduct, would do more than any thing else *to prevent* the occurrence of injury. The moral sentiment of every human community would rise in opposition to injury inflicted upon the just, the kind, and the merciful. Thus, by this course, the probabilities of aggression are rendered *as few* as the nature of man will permit.

2. But suppose injury to be done. I reply, the proper appeal for moral being upon moral questions, is not to physical force, but to the consciences of men. Let the wrong be set forth, but be set forth in the spirit of love; and in this manner, if in any, will the consciences of men be aroused to justice.

3. But suppose this method to fail. Why, then, let us suffer the injury. This is the preferable evil of the two. Because they have injured us a *little*, it does not follow that we should injure ourselves *much*. But it will be said, what is then to become of our national honor? I answer, first, if we have acted justly, we surely are not dishonored. The dishonor rests upon those who have done wickedly. I answer again, national honor is displayed in forbearance, in forgiveness, in requiting faithlessness with fidelity, and grievances with kindness and good will. These virtues are surely as delightful and as honorable in nations as in individuals.

But it may be asked, what is to prevent repeated and continued aggression? I answer, first, not instruments of destruction, but the moral principle which God has placed in the bosom of every man. I think that obedience to the law of God, on the part of the injured, is the surest preventive against the repetition of injury. I answer, secondly, suppose that acting in obedience to the law of benevolence will not prevent the repetition of injury, will acting upon the principle of retaliation prevent it? This is really the true question. The evil tempers of the human heart are allowed to exist, and we are inquiring in what manner shall we suffer the least injury from them; whether by obeying the law of benevolence, or that of retaliation? It is not necessary, therefore, to show, that, by adopting the law of benevolence, we shall not *suffer at all;* but that, by adopting it it we shall suffer *less* than by the opposite course; and that a nation would actually thus suffer less upon the whole than by any other course, cannot, I think, be doubted by any one who will calmly reflect upon the subject.

II. How would such a nation be protected from external attack and entire subjugation? I answer, by adopting the law of benevolence, a nation would render such an event in the highest degree improbable. The causes of national war are most commonly, the love of plunder, and the love of glory. The first of these is rarely, if ever, sufficient to stimulate men to the ferocity necessary to war, unless when assisted by the second. And by adopting as the rule of our conduct the law of benevolence, all motive arising from the second cause is taken away. There is not a nation in Europe that could be led on to war against a harmless, just, forgiving, and defenceless people.

But suppose such a case really should occur, what are we then to do? I answer, suffer injury with forgiveness and love, looking up to God, who, in his holy habitation, is the Judge of the whole earth. And if it be said, we shall then all be subjected and enslaved, I answer again, have wars prevented men from being subjected and enslaved? Is there a nation on the Continent of Europe that has not been overrun by foreign troops several times, even within the present century? And still more is it not most commonly the case, that the very means by which we repel a despotism from abroad, only establishes over us a military despotism at home? Since, then, the principle of retaliation will not, with any certainty, save a country from conquest, the real question, as before, is, by obedience to which law will a nation be most likely to escape it, by the law of retaliation, or by that of benevolence? It seems to me, that a man who will calmly reflect, can have but little doubt on this matter.

But I go still farther. The scriptures teach us that God has created men, both as individuals and as societies, under the law of benevolence; and that he intends this law to be obeyed. Societies have never yet thought of obeying it in their dealings with each other; and statesmen would generally consider the allusion to it as puerile. But this alters not the the law of God, nor the punishments which he inflicts upon nations for the violation of it. This punishment I suppose to be war. I believe aggression from a foreign nation to be the intimation from God that we are disobeying the law of benevolence, and that this is his mode of teaching nations their duty, in this respect, to each other. So that aggression seems to me to be in no manner a call to retaliation and injury, but rather a call to special kindness and good will. And still farther, the requiting evil with good, tends just as strongly to the cessation of all injury, in nations as in individuals. Let any man reflect upon the amount of pecuniary expenditure, and the awful waste of human life, which the wars of the last hundred years have occasioned, and then I will ask him whether it be not self-evident, that the one hundredth part of this expense and suffering, if employed in the honest effort to render mankind wiser and better, would, long before this time, have banished wars from the earth, and rendered the civilized world like the garden of Eden.

If this be true, it will follow, that the cultivation of a military spirit, is the cultivation of a great curse to a community; and that all means, both of offence and defence, are worse than useless, inasmuch as they aggravate the very source of the evil, the corrupt passions of the human heart, by the manner in which they ineffectually attempt to check the evil itself.

I am aware that all this may be *called* visionary, romantic, and chimerical. This, however, neither *makes* it so, nor *shows* it to be so The time to *apply* these epithets will be, when the justness of their application has been proved. And if it be said, these principles may all be very true, but you can never induce nations to act upon them; I answer, this concession admits that such is the law of God. If this be the case, that nation will be the happiest and the wisest, which is the first to obey it. And if it be said, it would be wisest and best to obey the law of benevolence, but men will never obey it; I answer, here is manifestly the end of the argument. If we show men what is wisest and best, and according to the will of their Creator, we can do no more. If they disobey it, this is a matter to be settled between them and their God. It remains, however, to be seen, whether God will or will not cause his laws to be obeyed; and whether omniscience and omnipotence have not the means of teaching his creatures submission to his will."—pp. 397-401.

NOTE F.

Referred to on page 76.

The following extracts from two different sources, will show that private persons once lived in relations of distrust towards each other, similar to those of nations of the present day. The first extract is from the Paston Letters, written in the time of Henry VII of England, and is, perhaps, the most curious and authentic illustration of the *armed* life of that period which can be found. The other is from Sir Walter Scott's picturesque Lay of the Last Minstrel. Who does not rejoice that such days have passed? Who will not join in labors to establish among nations the same harmonious, unarmed intercourse which now prevails among individuals?

"Right worshipful husband, I recommend me to you, and pray you to get me some cross-bows and wyndnacs,* (windlasses) to bind them with and quarrels,† for your houses here be so low that there may none man shoot out with no long bow, though we had never so much need.

I suppose ye should have such things of Sir John Fastolf if ye would send to him; and also I would ye should get two or three short pole axes to keep with [*in*] doors, and as many jackets and [*if*] ye may.

Partrich and his fellowship are sore afraid that ye would enter again upon them, and they have made great ordnance within the house, and it is told me that they have made bars to bar the doors crosswise, and they have made wickets on every quarter of the house to shoot out at, both with bows and with hand-guns; and the holes that be made from hand-guns they be scarce knee high from the plancher (*floor*,) and of such holes be made five, there can none man shoot out at them with no hand-bows." Paston Letters, CXIII, (LXXVII. vol. 3, p. 31.) Margaret Paston to her husband.

Nine-and-twenty knights of fame
Hung their shields in the Branksome hall;
Nine-and-twenty squires of name
Brought them their steeds from bower to stall;
Nine-and-twenty yeomen tall
Waited, duteous, on them all:
They were all knights of metal true,
Kinsmen to the the bold Buccleuch.

Ten of them were sheathed in steel,
With belted sword, and spur on heel:
They quitted not the harness bright,
Neither by day, nor yet by night;
        They lay down to rest,
        With corslet laced,
Pillowed on buckler cold and hard;
        They carved at the meal
        With gloves of steel,
And they drank the red wine through the helmet barred.

Ten squires, ten yeomen, mail-clad men,
Waited the beck of the warders ten;
Thirty steeds, both fleet and wight,
Stood saddled in stable day and night,
Barbed with frontlet of steel, I trow,
And with Jedwood axe at saddle bow.
A hundred more fed free in stall:
Such was the custom at Branksome hall.

Lay of the Last Minstrel, Canto I.

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* Wyndnacs are what are now called grappling-irons, with which the bow-string is drawn home.

† Arrows with a square head.

City Document—No. 24.

CITY OF BOSTON.

JAIL.

In Common Council, July 10, 1845.

Ordered, That the Report of the Committee on Public Buildings, upon the subject of a new Jail, together with the accompanying documents be printed.

Sent up for concurrence.

P. W. CHANDLER, *President*.

In the Board of Aldermen, July 14, 1845.

Read and concurred.

THOMAS A. DAVIS, *Mayor*.

In City Council, July 10, 1845.

The Committee on Public Buildings, to whom was recommitted their report on the plans and estimates for a new Jail, "to consider the expediency of providing suitable apartments for the safe keeping of prisoners required in Court, and to further investigate the location for a new Jail, and report a detailed estimate of the cost of the whole arrangements for the new Jail; also to further consider the expediency of selling the lands now occupied by the Jail, and the proceeds to be applied for the erection of a new Jail," ask leave to submit the following

REPORT:

In reference to the first subject of inquiry embraced in the instruction submitted to the Committee, they would state that it is their opinion, after a thorough examination of the rooms alluded to, that the Centre Watch under the Court House will answer for the detention of prisoners required in Court, and for all other prisoners which may be arrested during the night, to be brought before the Police Court; and that the basement story of the Ward Room, now erecting at the east end of the City Hall, may be fitted up for the detention and safe keeping of a number of prisoners, who would be comfortably situated, should they remain for some length of time.

Your Committee were next charged with the duty of reporting on the location of the proposed new Jail. On this point they do not feel that they can add any thing to what has been already urged in the discussions which have been had before this Board.

The case is not without difficulties, arising from the peninsular character and limited extent of the City proper giving to every foot of land within its borders a great and increasing value, for dwelling houses, or places of business. In selecting a spot for a Jail, we feel it a duty to pitch upon a site which shall secure to its occupants, all the comforts and satisfactions consistent with safe detention. These are no more than the rights of criminals and offenders; how much more so are they, those of persons detained upon charges, of which they may or may not be guilty, for want of power to give bail, and of witnesses confined for the same want. The future too, must be taken into account, and not merely the present, and the probable growth of the City must form an element in the decision of the question.

With these views, your Committee are at a loss to designate any place within the limits of the peninsula, suitable for the present and future wants of the Jail. Land is everywhere so valuable, that a lot large enough to secure a proper amount of light, air and ventilation could not be procured under a sum too large to ask of the Common Council, and indeed at any price, it would be very difficult to find a vacant lot large enough, so crowded have become, and so very little room is left unoccupied by buildings of some kind or other. There are also strong objections on other grounds towards placing a Jail in the midst of a populous City. The inhabitants have a right to demand that they and their children shall not be exposed to the daily presence of the sights and sounds inseparable from such a place. Their effect upon the susceptible minds of the young, especially, is to be deprecated.

We feel therefore that in making our choice, we are limited to two sites, to the unoccupied land on the neck, and to South Boston. As to the land on the neck, an eligible position in other respects would be nearly as far from the Court House as the City lands in South Boston; at any rate, the difference would be so little as not to overbalance the obvious superiority of the latter site in all other respects. The southern portion of the City is growing so rapidly, that in a very few years, the tide of population will have gained so far upon any spot which we may now select for a Jail, as to force upon us again the question of another removal. We therefore cannot escape from the conclusion, that the City Lands in South Boston furnish the only spot where a Jail can be built with all the means and appliances required by the spirit of our times and by the consistent philanthropy of our City and in such manner, that within this generation nor the next shall be called upon to consider the subject anew. The great and peculiar advantages of this site, in regard to air, light and ventilation, are obvious at a glance and need not be presented in detail to the Council. The objection is in the distance from the Court House and Court street. We admit this to be an objection and acknowledge it in its full extent. We believe it to be limited however to the greater expense of transporting persons to and from the Court House and to the inconvenience and loss of time to which the members of the bar will be exposed in communicating with the client. We presume that the Council are satisfied, that temporary accommodations can be furnished in the immediate neighborhood of the Court House, for persons taken up and committed in the intervals between the sessions of the Police Court. The danger of rescue by popular violence is so unlikely to take place, that the Committee may safely leave it out of their calculations. It can so seldom happen, that a violent popular sympathy will be aroused in favor of a person sent for temporary confinement to that Jail, that the contingency need not be anticipated. The greater expense and inconvenience arising from the increased distance is an evil, but how is it to be obviated without submitting to greater evils. There is a choice of difficulties and we must decide according to the preponderance of good. Every one's life is more or less of a compromise. We sacrifice some things for the sake of obtaining others. For the peculiar advantage which a City presents, we give up the quiet, the pure air and water, the freedom and the ample prospects of the country. To the inconveniences consequent upon the removal of the Jail, we feel that we must submit, for they are inevitable. We must endure greater ones, if it be not removed. The comparison, in this respect, should be made not with our present conveniences, but with those enjoyed by other large cities and by the other counties in our State. We have been so accustomed to have every thing within our immediate reach, owing to the limited extent of our territory, that we have come to regard our advantages as an inalienable right and have forgotten that ours was an exception to a general rule. In all large cities, Jails and places of detentions are and must be at a considerable distance from the central point of business. The inconveniences to be sustained by the bar in going to South Boston may be considerable in comparison with the present, but surely they are better off than the average of their brethren in the State, many of whom must travel twenty or thirty miles in order to visit their clients.

In reference to "a detailed estimate of the cost of the whole arrangements for the new Jail," the Committee would refer to the accompanying document marked A.

In regard to the fourth and last matter of inquiry referred to the Committee, namely, "to consider the expediency of selling the land now occupied by the Jail and the proceeds to be applied for the erection of a new Jail," the Committee would submit, as all they have to say under this head, the following *Resolve.*

For the Committee,

THOMAS A. DAVIS, *Chairman.*

Resolved, That it is expedient to build a new Jail after the most approved plan, under the direction of the Committee on Public Buildings, to be located on the City's Land at South Boston.

To carry this resolve into effect the Committee offer the following Order.

In Common Council, July 10, 1845.

Ordered, That the Treasurer be, and he is hereby authorized to borrow, under the direction of the Joint Committee of Finance, a sum not exceeding fifty-five thousand dollars, payable at such time as the Committee may direct, and the same be appropriated for the erection of a Jail and Jailer's House, on the City's Land, at South Boston.

Sent up for concurrence.

P. W. CHANDLER, *President.*

In the Board of Aldermen, July 21, 1845.

Read and concurred and the order passed.

THOMAS A. DAVIS, *Mayor.*

A.

Boston, July 10, 1845.

Sir,—Agreeably to your request that I should make a detailed estimate of the cost of erecting the proposed new County Jail and Keeper's House, at South Boston, upon the lands belonging to the City, I beg leave to say that upon receiving your directions, I forthwith consulted Capt. Alexander Parris, the Architect of the present Jail buildings, in Leverett street, and who also had the planning of the new part of the Charlestown prison (being the first prison erected upon the " Auburn plan," in the State of Massachusetts,) and in whose judgement and advice, as to the cost and method of construction I placed great confidence; and together, we have made up the estimate, which I send annexed herewith.

The calculations have been made with reference to the outer walls of the Jail and Keeper's House being built of bricks, and the longitudinal centre walls of the cells, (containing the flues,) also of the same materials; all the other walls of the cells are intended to be of rough dressed stones, in the same manner as those of the present Jail cells.

My opinion however is, that where stone can be as easily and cheaply procured, as in our own City, the outside walls of the buildings should be of rough stone, and by a calculation I have made, I find that a saving of about $600 could be made in the cost of the building, if the outer walls are built of stone ashler and " backed up" with rubble stone, instead of brick, and although this amount is small, still the character of a Prison would seem to require that its walls should be of a more solid and sterner looking material than bricks.

I have made no allowance in the estimate of the buildings, for the value of the materials now in the present Jail buildings in Leverett street, but a large deduction could of course be made from the total sum contained in said estimate, provided the aforesaid materials are re-used in the new building, which of course could be done in a measure, as one of the buildings could be immediately taken down, and the other might remain until the new Prison was sufficiently advanced to receive prisoners.

Very respectfully,
Your ob't serv't,
GRIDLEY J. F. BRYANT.

Clement Willis, Esq.,
Chairman Committee Public Buildings
on part of Common Council.

AN ESTIMATE

Of the cost of erecting a County Jail, with Keeper's House attached thereto, for the City of Boston, upon the Public Lands, at South Boston, in conformity with the accompanying Drawings, as follows:

JAIL BUILDING—*Masonry*.

For 171 cubic yards, contained in the area, to be excavated for the foundations,	*a* 25c	$42 75	
278 perches rubble stones, laid in lime mortar, for foundation walls	*a* 2,50	695 00	
1080½ feet of hammered granite base course, &c.	*a* 50c	540 25	
12 sets granite caps and sills for the great windows,	*a* $25	300 00	
620,000 bricks, contained in the outer and centre walls, laid in mortar,	*a* $11	6,820 00	
250 lineal ft. of granite cornice,	*a* 2	500 00	
60 " raking cornice,	*a* 2,50	150 00	
188 " copper gutter,	*a* 1,50	282 00	
67 squares slating,	*a* 8,00	536 00	
9120 feet superficial flagging stones for floors of cells & galleries,	*a* 50c	4,560 00	
9472 cubic ft. stone, contained in the outer walls of the cells,	*a* 70c	6,630 40	
6336 cubic ft. of stone, contained in partition walls of the cells,	*a* 70c	4,435 20	
			$25,491 60

Amount brought forward,		$25,491 60

Carpentry.

Carpenters' work contained in roof,	$960,00	
Patterns and other incidental works and scaffolding,	500 00	
		$1,460 00

Blacksmiths.

Iron railing to cells,	$838 35	
70 iron bedsteads, with "hook plate sacking" to each one,	630 00	
70 cast iron cell doors, with frames,	1,120 00	
6 long bolts, with rollers and handles complete, for fastenings to cells,	152 25	
70 locks for cell doors	280 00	
6 large padlocks,	90 00	
18 wrought iron doors and frames,	1,149 75	
6 flights of wrought iron stairs and railing,	314 40	
12 sets of window gratings, with locking bars, complete,	2,255 40	
12 cast iron window frames and sashes,	1,660 80	
72 sashes of cast iron,	489 60	
Cramps, dowell bolts, &c.	500 00	
2340 superficial feet of iron beams and brick arches, (including the brickwork,)	2,340 00	
		$11,820 55
Painting and glazing		$1,500 00
Total for Jail Building,		$40,272 15

Amount brought forward, $40,272 15

KEEPER'S HOUSE AND APPENDAGES.

Masonry.

For excavating for foundations and basement,		$100 00	
75 perches rubble stone, laid in mortar for foundations,&c.	*a*$ 2,50	137,50	
44,000 bricks laid, in basement,	*a* 11,00	484 00	
105,000 " above "	*a* 11,00	1,155 00	
44 window dressings, caps and sills,	*a* 20 00	880 00	
192 feet stone steps,	*a* 50c	96 00	
310 " rustic ashler,	*a* 1 00	310 00	
200 " belt, 12 in. wide,	*a* 50c	100 00	
349 " " 16 "	"	174 50	
465 " stone for basement walls,	"	232 50	
460 " rustic corners,		460 00	
26 squares slating,	*a* 8 00	208 00	
142 feet lineal, stone cornice, and copper gutter with same,	*a* 7 00	994 00	
1150 lbs lead,	*a* 7c	80 50	
75 ft. copper rain water conductors,	*a* 50c	37 50	
Plastering,		580 00	
			$6,079 50

Carpenter's Works.

For 90 squares flooring, complete	*a* —	$1,128 00
30 squares roofing,		448 00
Furring and stock, 500 sq's,	*a* $1	500 00
54 windows, glazed complete, and finished with inside blinds,		1,350 00
44 doors, hung and cased complete,		484 00

Amounts brought forward,		$46,351 65
Carpenters' Works of Keeper's House, brought forward and continued, - - - -	$3,910 00	
7 flights of stairs, - - -	300 00	
Plinth and case, - - -	150 00	
Shelving, drawers, &c. - -	200 00	
Outside doors and finish therefor,	100 00	
Laying upper floors, - -	150 00	
Painting, except glazing, -	300 00	
Hardware, - - - -	150 00	
Carting and insurance, - -	150 00	
Bells, - - - -	50 00	
Water closet, - - -	200 00	
		$5,660 00
		$52,011 65
Add contingencies, &c. - - -		3,000 00
Total cost of Jail and Keeper's House,		$55,011 65

Respectfully submitted,

GRIDLEY J. F. BRYANT, *Architect.*

Boston, July 10, 1845.

City Document—No. 25.

REPORTS

OF THE

INSPECTORS OF PRISONS,

ON THE

JAIL, BOSTON LUNATIC HOSPITAL,

HOUSE OF CORRECTION,

HOUSES OF INDUSTRY AND REFORMATION,

JUNE, 1845.

BOSTON:
1845.
JOHN H. EASTBURN, CITY PRINTER.

CITY OF BOSTON.

In the Board of Aldermen, July 21, 1845.

Laid on the table and ordered to be printed.

Attest, S. F. McCleary, *City Clerk.*

To the Honorable the Mayor and Aldermen of the City of Boston.

HOUSE OF REFORMATION.

On the ninth day of June last the Inspectors of Prisons visited the House for the Reformation and Employment of Juvenile Offenders. They made their usual inspection of every part of the House and grounds, and examined the inmates to know if they had any cause of complaint. Only one complaint was made and there appeared to be no reasonable ground for that one. The children have always appeared to be comfortable and contented, but for the last two years, it seemed from their answers to questions, their manners and appearance, that they had more life and spirits and were happy. This was particulary noticed at this inspection.

The Inspectors would again call the attention of the City Government to the fact that there are in the establishment only forty-six boys and three girls, when it is capable of containing double that number of boys and twenty-five or thirty girls. As the present arrangement permits the classification of girls, the former objections to their reception no longer exist. Hundreds of boys are wandering around our wharves and streets leading idle and dissolute lives, drinking, pilfering, destroying their own health and characters, educating themselves for the state prison, houses of correction and jails. They are also corrupting others to fill their places after them, so as to produce an uninterrupted succession, like that of the classes in our colleges or of the members in our corporations, and handing down to their successors all their improvements in vice and inventions in mischief. It has been noticed latterly that a great part of the house and shop-breaking is committed by boys; they have become men in crime, while only children in age. There are also a large number of girls about the City having no proper homes, frequenting the worst places and the most abandoned company, training for prostitution and other crimes. Only fourteen children have been committed during the past year. The City have this excellent establishment to receive and reform them, capable of receiving more than forty in a year, of retaining them three years, (a sufficient time on an average) and then indenting them to good masters (for they are in great request) and returning them to society virtuous and useful men and women. It has police officers, who have the means of knowing the circumstances of these children and of selecting those who are proper objects for the House of Reformation. The House is maintained at very little less expense, than it would be if it was full, is doing less than half the good which it ought, and these children are still permitted to wander about our streets and wharves going themselves and leading others to ruin. Will the City Government permit this state of things to continue? The Legislature have done their part by an alteration in the Statute creating the establishment. The remedy was formerly limited to " children who lead an idle and dissolute life, whose parents are dead, or if living, *from drunkenness or other vices*, neglect to provide suitable employment or exercise salutary control over the children." The evil of the idle and dissolute life of the child was often manifest, but it was difficult to determine, whether it arose from the vices of the parents or their ignorance, incapacity or unfortunate situation, which exposed the children to unavoidable temptation too strong to be resisted. In either case the mischief to the child was the same, whether it arose from one cause or the other. This difficulty was remedied by the Statute of 1843, chapter 22, by which it was provided, a child who "lived an idle and dissolute life," and whose "parents are dead or if living, from vice *or any other cause* neglect to provide suitable employment or exercise salutary control over such child," may be sentenced to the House of Reformation. The Legislature having thus performed their duty, it remains only for the City to do theirs to remedy the great evil, which we have described.

HEALTH.

There have been a few cases of measles recently, so slight as not to require the attendance of the physician. One death has occurred since the last inspection. The deceased was in feeble health when admitted to the Institution. The general health has been so good that it has rarely happened that a child has been prevented from attending to his usual duties. The Inspectors nevertheless renew their recommendation that the walls of the school-room should be colored grey or dull green, as ophthalmia is always to be feared, where numbers of children are brought together in one house.

The clothing of the children is good, in excellent order and well kept and arranged. The food is good and sufficient. The other provisions of law with regard to health are complied with.

CLEANLINESS.

The building appears to be very neat, clean and in good order. The provisions of law with respect to whitewashing, buckets, covers, &c. are not observed; but they seem suitable to buildings of the prison class, while this resembles a dwelling-house and not a prison. The permanent vault is not in the building. The building is whitewashed as often as is necessary for such a building and such inmates. Washing, bathing and clean linen are sufficiently provided for. The work of cleaning the house is done by the boys themselves.

DISCIPLINE.

The results show clearly that the discipline is good. The Superintendent states in his return that "there is never any resistance or insubordination on the part of the children." This is a very strong statement. But the children are so cheerful and in such good spirits, that it is manifest, that good feelings exist, between them and those who control them. Everybody there seems to pull the same way. This is great praise, but it is deserved. The punishments are black marks, deprivation of play, loss of grade, in extreme cases confinement, and as a last resort, a ferule on the palms of the hands. The children labor three hours after breakfast, and are then in school two hours. The noon recess is one hour. They are then in school two hours and labor three hours more.

IMPROVEMENT.

There are prayers and reading of the Scriptures on week days, and the children attend two services in the House of Industry and a Sunday School on the Lord's day.

The branches of instruction in the School are Grammar, Geography, Arithmetic, History, Reading, Writing and Orthography. The books in use are Worcester's and Abbot's reading books, Emerson's and Smith's Arithmetics, Olney's, Fowle's and Mitchell's Geographies, Brown's Grammar, Worcester's History. The return states that a few attend to Geography and some keep a journal.

The Inspectors examined their reading, writing and arithmetic. Except a few, who had been recently admitted and one or two whose mental powers were less than ordinary, their reading was good. Some of them had improved rapidly in writing. Some of the journals were well kept and showed a quick observation of what was passing and a little pleasantry now and then.

Twenty attend to Geography, eighteen to Grammar, forty-one to Arithmetic, three to History and forty-three to Writing. All but two can read plain reading. The pleasure of the exhibitions is eagerly anticipated by the boys and has a good effect. The same is true of the summer vacation.

EMPLOYMENT.

Forty-two are employed in shoemaking, eight on knitting woolen socks, eight on domestic occupations. The whole number are employed during part of the summer and autumn in farming and gardening.

GENERAL SUBJECTS.

Remaining at the last inspection,	42	
Returned, 1; committed since, 15,	16	
In custody since last inspection,		58
Indented since last inspection,	6	
Discharged by Police Court,	2	
Died,	1	9
Remaining in the House,		49

INDENTED.

John Rahill, 13 years, January 2, 1845, to Mr. Henry Keily, Randolph, shoemaker.

Richard Johnson, 13 years, February 13, 1845, to Mr. Thomas Hill, Randolph, shoemaker.

Robert Hughes, 14 years, April 4, 1845, to Mr. Pope, Boxford, shoemaker.

Thomas Powers, 15 years, April 10, 1845, to Mr. Lemuel Shattuck, Reading, shoemaker.

Abraham Thompson, 16 years, April 10, 1845, to Mr. Amariah Wilcox, Reading, shoemaker.

Margaret Mulloy, 13 years, January 10, 1845, to Mr. Horace Kendall, Ludlow.

DISCHARGED BY POLICE COURT.

Frederick Thompson, 15 years, February 10, 1845.
Thomas Clark, 16 years, March 27, 1845.

DIED.

John F. Whitney, 14 years, May 29, 1845.

OFFENCES.

	Boys.	Girls.	Total.
Stubborn children, - -	19	1	20
Larceny, - - - -	17	3	20
Living idle and dissolute lives,	10	0	10
Pilfering, - - - -	2	0	2
Vagabonds, - - -	4	0	4
Arson, - - - -	1	0	1
Cheating by false pretences,	1	0	1
	54	4	58

JAIL.

The Inspectors of Prisons visited the Commonwealth Jail on the thirteenth day of June, inspected every part of the prison and its dependencies, put such interrogatories to the officers, as seemed to be necessary, and examined every prisoner separately as to any cause of complaint which he might have or know. No complaints were made, but all appeared to be satisfied with their treatment. They have received from the under-keeper the return required by law.

HEALTH.

The health of the prisoners had been generally good, except where they brought their complaints with them. The requisitions of law, as to beds, bedding, drying of clothes and water for drinking, continue to be observed. Dr. Smith, the Port Physician, visits the sick.

CLEANLINESS.

The Prison exhibited its usual neatness, and good order. The provisions of law respecting buckets, covers, vaults, whitewashing, shirting, shaving and washing, have been complied with.

DISCIPLINE.

We found more than one prisoner in a room, as has been the case at former inspections, and sometimes when it might have been avoided.

The rules respecting classification, seem to have been observed in such cases. No spirituous liquors has been detected in the prison. The construction of the prison is such, that it is impossible to prevent communication and noise.

EMPLOYMENT AND IMPROVEMENT.

By turning to the table shewing the length of confinement, it will be seen that little or nothing in this way can be done to any purpose. Bibles are furnished according to law, and clergymen are admitted to visit the prisoners.

GENERAL SUBJECTS.

As the subject of building a new Jail is again under consideration, especially with regard to its location, the Inspectors have thought it expedient to state the length of the terms of imprisonment, during the last six months, and as returned at two former inspections, in 1841 and 1843. It is manifest that a prison, where prisoners are continually coming and going, cannot conveniently be placed at a distance from the places of their apprehension and trial; that the place which would be suitable to confine prisoners under sentence for long terms, might not be most suitable for a lock-up house, where most of them are kept for a day, or two days.

Length of Imprisonment six months preceding December 6, 1841:

Confined one night only, -	424	
two nights, - -	97	
three nights, - -	23	
more than three, -	183	
	——	727

Six months preceding June 20, 1834:

Confined one night only,	473	
two nights,	56	
three nights,	17	
more than three,	219	
		765

Six months preceding June 13, 1845:

Confined for one night only,	621	
two nights,	62	
three nights,	30	
more than three,	240	
		953

It will thus be seen that about five eighths of the prisoners are confined only one night, and about a quarter are confined more than three nights.

Committed from June to Dec. 1841:

For trial, examination, &c.	625	
To secure payment of fine,	94	
Under sentence of Court,	8	
		727

Committed from December 1842 to June 1843:

For trial, examination, &c.	627	
To secure payment of fine,	133	
Under sentence of Court,	5	
		765

Committed from December 1844 to June 1845:

For trial, examination, &c.	785	
To secure payment of fine,	162	
Under sentence of Court,	6	
		953

The Inspectors beg leave to add a few remarks upon the preceding tables, copied from a former report:

"Those who pay their fines, do not remain on an average more than two nights. Those who do not pay, are reported by the Jailer to the Court, on the first and third Wednesday of every month. Some are discharged on the first report, and the others, except old offenders and those guilty of larceny and higher offences, are generally discharged on the second report. Those thus committed by the Supreme and Municipal Courts, are discharged by the Police Court, whenever it seems expedient, after they have obtained the recommendation of one of the Justices. Before trial or examination, it is necessary, to the ends of justice, that the accused should be so situated that he can see his counsel and procure his witnesses, and ascertain their testimony, without being prevented, by an expense beyond his means. Humanity also requires that debtors should be within reach of their friends. All imprisonment previous to trial, having no object but to secure the prisoner for trial, should be in a place so situated as to do him no other injury which can possibly be avoided; least of all, to diminish his means of defence. When a prisoner is arrested, he is often committed to the Jail, while the witnesses against him are to be found and summoned. He is then taken from the Jail, and brought before the Police Court. Then, frequently, the government has not been able to prepare the case against him, or he is not ready for his defence, and if he cannot find sureties, he is again committed, and even when taken from the Jail and brought before the Court a second time, justice sometimes requires a further delay, and one or more subsequent commitments, before the investigation is complete; and if the result of final examination is, that a probable case, not within the jurisdiction of the Police Court, is made out against him, he must be committed again, if he cannot find sureties for his appearance at the Municipal Court. And when he can find sureties for his appearance before the same Court, or the Municipal Court, this often cannot be done at the time: he must then be committed; and when he has obtained them, he must be taken again from the jail, and brought before the Court to recognize. All this seems to require that the Jail should not be far distant from the Court. If it is distant, the charge of travel, every time the prisoner is brought before the Court and committed, would amount to a considerable sum. Thus it appears that, so far as concerns persons charged with offences, the jail is a mere lock-up house, where persons are retained for trial and examination, and for non-payment of fines: only five, six and eight being under sentence of imprisonment, during three different periods of six months. About one in a hundred is there for punishment, and the remainder for safe keeping until their guilt or innocence is ascertained, or they have paid a certain sum of money. It also appears that about one quarter only remain three nights, and that more than four sevenths remain only one night; and that they are coming and going to and from the Courts during the time of their imprisonment.

"When witnesses are in attendance in several cases, (as is frequently the case) the delay necessary to bring prisoners from a distance, is attended with great loss of time and inconvenience to the witnesses, and sometimes with detriment to their business. This is particularly true with regard to witnesses from the country, (the process of the Police Court, as well as of other courts, for witnesses, running throughout the Commonwealth,) and persons bound to sea. As it is, vessels are sometimes delayed by the detention of seamen, as defendants or witnesses. If the Jail is at any distance, the defendants must be brought in some carriage kept for the purpose, and which soon becomes well known, and draws about the Court House idlers and worse persons, greatly to the annoyance of others.

The examination of poor debtors, and the administration of the oath, is a matter which involves the rights of creditors and the liberty of debtors. If removed to a distance, it is out of the power of respectable magistrates to attend, and it will fall into the hands of persons more liable to influence by the parties.

"The Inspectors have thought it a duty to state these facts in their Report, because, although a matter of every day experience to them, they fall but seldom within the observation of their fellow-citizens; and the knowledge of them might be useful, whenever the question of the location of a new Jail is again agitated."

The following persons, imprisoned for non-payment of fines and costs, have been discharged by the Police Court, viz:

William Kenney, Henry Penrose, James Bowers, John O'Brien, Eli T. Houston, John Sanford, Hugh Caldwell, John R. Tuttle, John R. Smith, John Bucknam, Thomas Riley, George Rice, Richard Notaby, Neil Burton, George E. Kimball, Mary McCarty, Elizabeth Davis, Eli T. Houston, Patrick Kennedy, James O'Brien, Jeremiah Sullivan, Francis Clifford, George Bree, Gorham T. Burnham, Oscar Lawrance, Thomas Miller, John Barclay, Sarah Richardson, Richard Scott, Eli T. Houston, Michael Grace, Thomas H. Pebbles, Thomas Brannen, John Brannen, John Duyer, James White, John Clark, John French, James Campbell, George Randall, James C. Farley, James Jackson, Daniel Thompson, James Pierce, Mary Ann Delaney, Mary Timony, A. Green, George Doyle, Thomas Brown, Harriot Tavers, William Dorrickson, Wm. Symmes, John Mallon, Clement Milliken, John Rogers, Robert Edwards, Thomas Rogers, Daniel Farrar, William Laha, Charles McKenzie, Daniel W. Maxwell, Chas. Peacock, Robert Hayes, Lawrence Leonard, Helen Riley Fox, John Triel, William Gilmore, William Symmes, John Johnson, John Agen, Bridget Ford, Geo. McClennen, Hugh Kearney, Cornelius Tighe, John Sullivan, Michael McGuire, Martha White, Thomas Coffee, James Low, Felix McManus, Wilson Borrowscale, John Mahar, William Riley, David Newcomb, Amos Richardson, Drury McIntire, James Leavitt, George Francis, Charles Melcher.

Pardoned—None.

Died—None.

Escaped—None.

HOUSE OF INDUSTRY.

The Inspectors of Prisons visited the House of Industry on the tenth day of June last, and examined all persons in confinement there, under the sentence of a Court, and made such other inquiries as seemed to be necessary concerning their condition and treatment. The persons sentenced to confinement there, are generally women with nursing children, who are so much occupied in taking care of their children, that their labor would do little good to themselves or any one else, if confined in the House of Correction, and for whom it has no convenient place; who must be kept in the Hospital, and the sick be disturbed by the children. Also persons, who from sickness, or defects of body or mind, are unfit to labor.

HEALTH AND CLEANLINESS.

The Health of those sentenced had been generally good, after they recovered from diseases contracted before commitment. The place seemed to be clean, and in very good order. Their personal cleanliness seemed to be attended to.

DISCIPLINE AND IMPROVEMENT.

The discipline is the same as that established for the government of paupers. Bibles are in every room. There is a Chaplain, and religious services on the Lord's Day; and they may have opportunities to converse with the Chaplain.

EMPLOYMENT.

The men are employed on the farm, and in picking oakum, and the women in housework, washing and mending.

In the house on last inspection,	5	
Admitted since, - - -	10	
	—	15
Discharged on expiration of sentence,		8
		—
Remaining at present inspection,		7

None pardoned, discharged by Court, escaped, or died.

OFFENCES.

Common Drunkards, - -	14	
Vagabond, - - -	1	
	—	15
Born in foreign States, - -	10	
other States, - -	2	
Massachusetts, - -	3	
	—	15

BOSTON LUNATIC HOSPITAL.

The Inspectors of prisons visited the Boston Lunatic Hospital on the tenth day of June last. They examined all the apartments, kitchen, yards and dependencies, and ascertained the state of the inmates and other circumstances by inquiries of the Superintendent and keepers. They saw every patient, but found no one to whom it would have been proper to put any questions. No changes have taken place in the arrangements since the last inspection. No accidents have occurred. The general health and quiet of the patients for the last six months has been rather more favorable than usual. Most of the remarks made in former reports have consisted in pointing out some deficiencies which should be supplied. The kindness and care of the City Government has remedied these causes of difficulty one after another, so that little remains to be said upon such subjects.

One evil which still continues is the tile floors of some of the wards. These are unfavorable to cleanliness and health.

Another cause of difficulty has arisen of late from the crowded state of the House. It is now necessary in several instances to put two patients in one room. This is a very great evil and is increasing.

There are six wards containing twelve rooms each, and one in each ward is occupied by the attendants, which leaves sixty-six rooms. The attic story is not divided into rooms.

At the inspection, the patients were disposed of as follows:

In Attics, - - - - - -	38

In Cottage,	6	
" 66 Rooms,	74	
Absent with their friends,	4	122

showing that eight rooms had two patients in each.

No. of patients remaining in the Hospital at the last inspection:

Males,	63	
Females,	54	117

No. of patients admitted since last inspection:

Males,	11	
Females,	2	13

Cases of less duration than one year among the latter:

Males,	9	
Females,	1	10
Of these have recovered,	2	
" have improved,	3	
" are unimproved,	4	
" has died,	1	10

Of each of those improved there is a prospect of recovery. The same hope is entertained in two of the unimproved cases. The single death above marked occurred from exhaustion in a patient who had been addicted to the use of spirituous drinks, upon which habit acute and severe mania at length supervened.

Cases of longer duration than one year:

Males,	2	
Female,	1	3

Of these two remain stationary. The other patient who had been attacked with apoplexy previous to his coming here, is gradually becoming more feeble, and will probably die before the next inspection.

Whole number of patients discharged since last inspection:

Males,	8	
Female,	1	9
Of these have recovered,	4	
Died,	5	9

Causes of death:

Consumption,	2	
Marasmus,	1	
Epilepsy,	1	
Exhaustion,	1	5

Names of the deceased:

James Kelly, Thomas Smith, James Low, Charles Bourguin, Agnes C. Krollmeer.

Admissions and discharges in each month since last inspection.

Admissions.		Discharges.	
December,	1	December,	2
February,	1	February,	2
April,	3	March,	1
May,	7	May,	1
June,	1	June,	3
	13		9

Average number of patients during each month:

December,	116
January,	116
February,	115
March,	114
April,	117
May,	123
June,	121
General average,	117 3-7

No. of patients remaining at time of inspection:

Males,	67	
Females,	55	122
Curable,	4	
Incurable,	118	122

HOUSE OF CORRECTION.

The Inspectors of Prisons visited the House of Correction on the fifth day of June last, and made the usual inspection of every part of the buildings and grounds and examined the food and clothing of the prisoners, made such inquiries of the Master and officers as seemed necessary, and interrogated each of the prisoners separately as to any cause of complaint, which he might have or know. They have also received from the Master the return required by law. The result was, that the Inspectors were satisfied, that the establishment still maintained the high character, which it had acquired and for so long a time preserved.

HEALTH.

General health has prevailed since the last inspection. The average number of days lost by sickness by the males has been 6¼, by the females 6¾. The Physician visits the patients daily. The provisions of law for the preservation of health seem to have been complied with.

The number confined in the Hospitals—Males 10, Females 7.

DISEASES.

Syphilis,	3
Injury to foot,	1
Debility and Diarhœa,	2
Swelled feet,	1
Ulcer of cornea,	1

Delirium tremens, - - - - -	3	
Tremor sine delirio, - - - - -	1	
Consumption, - - - - - -	1	
Acute rheumatism, - - - - -	1	
Dropsy, - - - - - - -	1	—17

The bread and food were good and the rations the same as before.

CLEANLINESS.

All parts of the dormitories, kitchens, passages, work-shops, store-rooms, hospitals and yards, were perfectly clean and neat. The provisions of law respecting buckets, covers, whitewashing, washing, shirting and shaving, seem to have been complied with.

EMPLOYMENT.

Table showing the employment of *all* those who are or have been in confinement *since last inspection.*

MALES.

Blacksmiths and stone cutters under contract with Quincy Granite Railway Company,	68
Brass foundry, - - - - - -	27
Stamping brass nails, - - - -	32
Button shop, - - - - - -	96
Carpenters, - - - - - -	2
Bakers, - - - - - - -	5
Tailors, - - - - - - -	3
Shoemakers, - - - - - -	5
Whitewashers, - - - - - -	8
Ostlers, - - - - - - -	3
Attending yard gate, - - - - -	3
Lumpers in yard, - - - - - -	12

Nurse in Hospital, - - - - -	2
Invalids, - - - - - - - -	17
Sick, - - - - - - - -	23
Insane, - - - - - - - -	1
Sweeps in Prison, - - - - - -	7
Picking wool, - - - - - - -	16
Garden, - - - - - - - -	9
Tinman, - - - - - - - -	3
Piggery, - - - - - - - -	1
Sundries, - - - - - - - -	6
Total—Males, - - - - -	349

FEMALES.

Making shirts, - - - - - - -	54
Cooking for prisoners, - - - -	14
Domestics in Master's House, - - -	8
Sweeps in Prison, - - - - - -	3
Sick, - - - - - - - -	15
Nurse in Hospital, - - - - - -	3
Making prison garments, - - - -	28
Knitting, - - - - - - -	14
Making pants and overalls, - - -	6
" coats, - - - - - - -	1
Washing for prisoners, - - - -	22
Mending " " - - - - -	9
Making jackets, - - - - -	6
Making shirt bosoms, - - - -	4
Sundries, - - - - - - - -	11
Total—Females, - - - - -	198

DISCIPLINE.

No change has taken place in the methods of discipline. The Master stated in his return for December last, that no corporal punishment whatever was used. The discipline was as good as at any previous inspection. The means of moral and religious improvement continue the same.

GENERAL SUBJECTS.

Table showing the number employed at each branch on the *day of inspection.*

Employment of Males.

Blacksmiths and stone cutters under contract,	31	
Brass foundry,	14	
Stamping brass nails,	6	
Button shop,	27	
Carpenters,	1	
Tailors,	1	
Shoemakers,	1	
Bakers,	1	
Whitewashers,	2	
Sweeps in prison,	2	
Lumpers in yard,	2	
Sick,	10	
Invalids,	3	
Nurse,	1	
Hostler,	1	
Attending yard gate,	1	
Tinman,	1	
Garden,	4	
Sundries,	4	113

Employment of Females.

Domestics in Master's House,	3
Cooking for Prisoners,	5
Washing " "	9

Mending for Prisoners, - - -	4	
Sweeps in Prison, - - - -	1	
Making shirts, - - - -	17	
Making shirt bosoms, - - -	2	
Making prison clothing, - - -	21	
Nurse in Hospital, - - - -	1	
Sick, - - - - - -	7	
Invalids, - - - - -	2	
Sundries, - - - - -	2	74
		187

The number of males remaining in confinement December 6, 1844, was,

Committed by Municipal Court, -	72	
" " Supreme Judicial Court,	2	
" " Police Court, - -	86	160

Committed from date to June 10, 1845, by

Municipal Court, - - - -	54	
Police Court, - - - - -	135	189
Total, - - - -		349

Discharged in said period :—

Expiration of sentence, - - -	226	
Previous, - - - - -	6	
Died, - - - - - -	2	
Suicide, - - - - -	1	
By Municipal Court, sent to State Prison, - - - - -	1	
Total, - - - - -		236

Males remaining in confinement June 10, 1845.

Committed by Supreme Judicial Court,	2	
" " Municipal Court, -	45	
" " Police Court, - -	66	113

Number of females remaining in confinement December 6, 1844, was,

Committed by Municipal Court,	8	
" " Police Court,	78	86

Committed from that date to June 10, 1845,

By Municipal Court,	11	
" Police Court,	101	112
Total,		198

Discharged in same period,

By expiration of sentence,	120	
Previous,	4	
Total,		124

Females remaining in confinement, June 10, 1845,

Committed by Municipal Court,	7	
" " Police Court,	67	74

Total number of prisoners remaining in confinement, June 10, 1845, - - - 187

Discharged previous to expiration of sentence,

Jane Bino, Henry W. Ridgway, Ward Jackson, Jr., William Marrow, alias William Mace, Bridget Cochran, Sarah Milliken, James Grant, Christopher Popman, Ann Smith, Nathaniel Langdon.

DIED.

William McFarland, February 4, 1845—Abscess of the pleura.

Stephen McKenna, March 24, 1845—Pleuro pneumonia.

Joseph Osgood, by taking medicine prescribed for another prisoner, May 27, 1845. The verdict of the coroner's inquest was, suicide.

ESCAPED.

George W. Symonds, March 8, 1845, and Edward Durant, March 15th, 1845—both were retaken.

Offences of those who are or have been in confinement since last inspection.

MALES.

Manslaughter,	1	
Common and notorious thieves,	8	
Larceny in dwelling houses,	26	
Larceny in shops,	29	
Cheating by false pretences,	4	
Larcenies,	68	
Common Drunkards,	147	
Vagabonds,	36	
Setting fire to House of Reformation,	1	
Perjury,	2	
Assault,	8	
Keeping house of ill fame,	7	
Fornication,	1	
Attempting to escape from House of Correction,	1	
Adultery,	2	
Keeping noisy house,	1	
Passing counterfeit money,	2	
Lewd and lascivious cohabitation,	1	
Intent to commit a rape,	1	
Forgery,	1	
Lewdness,	1	349

FEMALES.

Common and notorious thieves,	3
Larceny in dwelling house,	6
Larceny,	7
Keeping house of ill fame,	4

Lewd, wanton and lascivious,	18	
Common night walkers,	11	
Common drunkards,	141	
Vagabonds,	4	
Adultery,	2	
Fornication,	1	
Assaulting,	1	198

SENTENCES.

Females.	Males.	Sentences.
0	1	14 days.
1	0	20 days.
1	2	30 days.
0	1	39 days.
0	1	51 days.
0	1	60 days.
1	0	90 days.
2	17	1 month.
38	82	2 months.
33	47	3 months.
39	51	4 months.
30	18	5 months.
44	34	6 months.
0	2	7 months.
0	2	8 months.
2	4	9 months.
0	1	10 months.
0	1	1 month and solitary.
0	2	2 months and solitary.
0	3	3 months and solitary.
0	3	4 months and solitary.
0	1	5 months and solitary.
1	8	6 months and solitary.
0	1	7 months and solitary.
0	3	8 months and solitary.

Females.	Males.	Sentences.
1	2	9 months and solitary.
0	1	14 months.
3	16	1 year.
0	2	1¼ years.
0	6	1½ years.
1	7	2 years.
0	1	2¾ years.
0	8	3 years.
0	6	1 year and solitary.
1	1	1¼ year and solitary.
0	4	1½ year and solitary.
0	2	2 years and solitary.
0	1	2½ years and solitary.
0	1	3 years and solitary.
0	3	4 years and solitary.
0	2	5 years.
198	349	Total.

TABLE OF NATIVITY.

Maine,	34	
New Hampshire,	26	
Vermont,	7	
Massachusetts,	162	
Rhode Island,	3	
Connecticut,	4	—Natives of N. England, 236
New York,	13	
New Jersey,	1	
Pennsylvania,	6	
Maryland,	5	
Virginia,	8	
South Carolina,	2	
Georgia,	2	

Louisiana,	1		
Missouri,	1		
District of Columbia,	2	—Natives of other States,	41
		Americans,	277
British Provinces,	20		
Canada,	5		
England,	32		
Ireland,	197		
Scotland,	8		
France,	3		
Portugal,	1		
Denmark,	2		
Germany,	1	—Foreigners,	269
		At Sea,	1
		Total,	547

AGES.

	Males.	Females.
Under 20 years,	54	16
20 to 30,	105	85
30 to 40,	91	64
40 to 50,	61	37
50 to 60,	25	5
60 and over,	11	1
Unknown,	2	0
	349	198

NUMBER OF TIMES COMMITTED.

	Males.	Females.
First time,	200	50
Second time,	70	34
Third time,	39	19

	Males.	Females.
Fourth time, ...	6	20
Fifth time, ...	10	17
Sixth time, ...	4	8
Seventh time, ...	4	13
Eighth time, ...	3	14
Ninth time, ...	1	5
Tenth time, ...	2	3
Ten times and over, . .	3	15
	349	198

JOHN GRAY ROGERS,
WILLARD PHILLIPS,
JAMES C. MERRILL,
ABEL CUSHING,
Inspectors of Prisons.

July 30, 1845.

EULOGY

ON

General Andrew Jackson,

LATE PRESIDENT OF THE UNITED STATES,

DELIVERED IN

FANEUIL HALL, JULY 9, 1845,

BY PLINY MERRICK,

AT THE REQUEST OF THE MUNICIPAL AUTHORITIES

OF THE

CITY OF BOSTON.

BOSTON:
1845.
J. H. EASTBURN—CITY PRINTER.

CITY OF BOSTON.

In the Board of Aldermen, July 14, 1845.

Ordered, That the thanks of this Board be presented to the Hon. Pliny Merrick, for the able, candid and eloquent Discourse delivered before the City Government, at Faneuil Hall, on the 9th instant, on the life and character of Andrew Jackson, late President of the United States, and that a copy of the same be requested for publication.

Attest, S. F. McCLEARY, *City Clerk.*

EULOGY.

We assemble, my fellow citizens, to mark with impressive and solemn service the loss of the republic in the death of its most illustrious citizen. The magistrate who served, the hero who defended, and the patriot who loved and honored his country—an old man full of years and of honors, and ripe for the celestial harvest, is gathered to his fathers and sleeps in the peaceful silence of the grave. The event of which advancing age, and tidings of lingering sickness and increasing infirmity had given warning, and which has long been anticipated as the close of an eventful, energetic and glorious life, now assembles vast multitudes of the people in all parts of the country, to unite in the testimonials of a common and universal bereavement. He who was the object of their pride and devoted affection—whom they had twice advanced to their most elevated office to be the administrator of their laws, and the defender of their liberty—whom they were accustomed to greet with the ardor of friendship, and to cheer with the acclamations of confiding freemen, has fulfilled his mission of earthly duty, and rests from the cares, the temptations and triumphs of time.

Yet this impressive change creates an occasion less fitted to excite emotions of sadness and grief, than to revive, in sober meditation, grateful remembrances of a life illustrated by inspiring examples of energy of action, purity of purpose, and distinguished achievements, identified for years with our national history. To such contemplations the hour of funeral solemnity may well be devoted. There is no higher tribute to the memory of a truly great man than a faithful record of the history of his life and a presentment of a just delineation of his established character. Affection has no dearer theme, and wisdom no nobler counsels than the living actions of departed worth.

ANDREW JACKSON, late President of the United States, owes nothing of his success or celebrity to distinguished birth or adventitious circumstances. Originally endowed with a capacity susceptible of the most expansive development, he fashioned for himself and controlled the destiny of his life. He was born in the State of South Carolina, on the 15th of March, 1767, of parents in respectable but humble condition of life, who two years before had emigrated from Ireland to the United States. Soon after his birth, the death of his father left him in charge of a mother, who brought from her native land sentiments of hatred to arbitrary oppression, and reverence for the rights of the great masses of mankind, which she instilled with the gentle but prevailing influence of her sex into the expanding mind of her child. These maternal instructions were confirmed and strengthened by the prevalent opinion of the times, and the animated tone of discussion which was universal before the commencement and during the progress of the war of independence. They sank deep into the mind of the orphan boy ; gave direction to the current of his thoughts, and the aspiration of his ambition ; and when, at the age of fourteen, the troops of the royal army, under Lord Rawdon, ravaging the fields of Carolina, left to the inhabitants the alternative only of submission or resistance, he flew with youthful enthusiasm to the standard of liberty, and devoted himself, heart and life, to its defence in the military service of his country. Then, and then only, in the whole course of his career as a soldier—when *he* served and *others* commanded—he suffered the disadvantages and mortification of defeat. But misfortune could check only his career, not conquer the spirit that swelled in his bosom. As fearless in the camp of the enemy as under the folds of his country's banner, no terror could alarm, no force compel him to dishonorable service. He spurned alike the base dictation and the uplifted sword of the English officer by whom it was commanded, and bore to his grave the mark of the deep wound an unarmed boy received in this his first resistance to the attempted oppression and degradation of abitrary power.

After his restoration from captivity, by an exchange of prisoners, he commenced his professional studies in the State of North Carolina, and was admitted to the bar as a counsellor at law in 1786, and immediately afterwards established himself at Nashville, then constituting a part of the back settlements in that State. He brought with him to this new scene of duties, qualifications which insured ultimate success—a clear, sagacious mind, entire devotedness to professional obligation, a sincere and almost passionate love of justice, accompanied by a personal firmness which nothing could divert from its pursuit. He entered with avidity and earnestness into his professional employments, and soon won the confidence and commanded the respect of the community.

Without the advantages of a liberal education, and with but slight opportunities for acquisition at an academical institution, which was broken up and arrested in its course of instruction, and its master and scholars dispersed by the disturbances of the war, we may venture to presume that he who at so early an age commenced his professional practice, and pursued it immediately afterwards, with eminent ability and success, must not only have been endowed with strong and vigorous natural faculties, but must have toiled with diligent industry, and appropriated the circumscribed and limited means at his command with singular felicity. And it may excite a generous emulation to know, that against all the disadvantages of the privation of books and learned instructers, it was in this secluded portion of his life that he obtained much of that exact and complete knowledge of the theory and principles of both national and municipal law, which at a later period, in the numerous exigencies—often perplexing, and sometimes momentous—which demanded their application, were so familiar to his thoughts as to enable him to come to the most prompt as well as the most accurate determination.

So rapid was his progress, and eminent the professional power and capacity he immediately evinced, that two years after his settlement at Nashville, when Tennessee, by the cession of North Carolina, was erected into a territory, his reputation attracted the attention of President Washington, by whom he was appointed Attorney for the United States for that district. And with this appointment commenced that extraordinary series of public services which ANDREW JACKSON so long, so faithfully, and with such brilliant results, devoted to his country. What singular coincidences ensued! and how felicitous and befitting that his merits should have been thus early discerned, and his public career instituted by him, the first chief magistrate under the constitution, whose principles he was destined afterwards to uphold, whose warnings to reiterate, and whose civil and military fame so much to resemble and so closely to approach!

In 1796 the territory of Tennessee was erected into a State, and the people seized the earliest opportunity afforded them at a popular election to manifest their confidence in Andrew Jackson, and to secure to themselves the benefit of his judgment and counsel. He was chosen a member of the convention assembled to frame the republican constitution of the State, assumed the duties of the office, and entered upon its discharge with conscientious respect for its responsibilities, and a deep anxiety firmly to establish those fundamental principles which are embraced in the comprehensive expression of "the rights of man." The constitution which was established asserts among its provisions two great and leading propositions, which he always defended as maxims, and followed as the guides of his political life—the inherent, indefeasible and uncontrollable sovereignty of the people; and the injustice and enormity of perpetuities and monopolies—those insidious and cruel instrumentalities by which the prosperity of the many has been subjugated to the unjust advancement of the few—the bane of peace,—of all private, and therefore of all national prosperity.

The constitution was established, and Tennessee was admitted a member of the Union; and Andrew Jackson was elected her first representative in the popular branch of the National Legislature. A single year only elapsed when, by a new election, he was transferred to the Senate. He retained his position as a member of this body till 1799, when, intending to retire wholly to private life, he sent in his resignation and withdrew from the Senate. But scarcely had he left his political situation when, not only without solicitation, but without any knowledge on his part that such a purpose existed, he was appointed to the highest judicial situation in Tennessee—a judge of the Supreme Court of the State. They who had witnessed his earnestness and ability at the bar, his gravity and wisdom in the Senate, his fidelity and conscientiousness in every undertaking, knew the power and resources he would carry to the bench, and how truly the scales of justice would be balanced by his independent judgment and luminous understanding. He accepted this high judicial office with much personal reluctance, and after a brief period, anxious to relieve himself from the responsibilities of all public employments, he tendered his resignation and withdrew to the occupation of his private pursuits.

When, shortly after his retirement from the bench, he was, most unexpectedly to himself, elected to the office of Major General of a division of the militia of Tennessee, he regarded the acceptance of his military commission as scarcely a deviation from his determination to remain in the seclusion of his private employments. Yet it constituted in fact one of the most important points in his progress towards the consummation of those great ends of usefulness and honor—of civil and military renown, to which he was destined ultimately to attain. But though the magnitude of the consequences which were involved in his acceptance of military office was neither foreseen nor appreciated, he would permit himself to hold none, the duties of which he did not fully and faithfully qualify himself to discharge ; and though for years little more was necessarily required of him than the maintenance of the formalities of a military organization and a general superintendence of his division, he lost no opportunity of possessing himself of all knowledge appropriate to his situation ; and, therefore, when the hour of trial, of action, of laborious and perilous duty arrived, he was all fitted and prepared—armed and panoplied for the service—filled with knowledge, imbued with power—strengthened by a heart which had no beatings in his bosom but for honor and his country.

After the declaration of war against Great Britain in 1812, GENERAL JACKSON entered the service of the government as Major General of his division in the Tennessee militia, and continued to act under that authority until 1814, when he was appointed to the same rank in the army of the United States.

Constantly in service during the whole period of the war, his military genius was developed in a long series of engagements, in which success everywhere attended his banner. New lights broke in from the fires of his camp through clouds of disappointment and disaster, and the hopes of the country were revived under the military successes of a general whose training had been at the bar, in the senate, and on the judicial bench. Appeals from the suffering inhabitants of the frontier, upon whom was waging the merciless hostility of savage warfare, first called forth the demonstrations of his military enterprise and capacity; and he immediately displayed all the qualities of a consummate commander. Encountering difficulties of every possible description—fatigue, suffering, famine, mutiny—he never quailed before their separate or united power,—but, inexhaustible in resource, indomitable in perseverance, resolved at all hazards to wrench the tomahawk from the hands of the barbarian, his guiding genius and command were everywhere successful. His eagle eye detected the plans, followed the trails, and discovered the ambuscades of his subtle foe. Revolt trembled back into the obedient ranks of his army before the rebuke of his haughty indignation, and his march in the forest was a perpetual triumph, until the multiplying hordes of savage warriors were subdued and vanquished, until their fires were all out, and savage ferocity bent in supplication for the mercies of peace.

But the skill, the intrepidity, the genius, and the commanding faculties of GENERAL JACKSON remained yet to be tested on a broader field and in a more noble and exalted conflict. The wars of Europe were just ended in the subjugation of the colossal soldier of France; and England, relieved from the enormous burdens she had borne in the long agony of her struggle with Napoleon, was suddenly enabled to concentrate a vast combination of her military and naval forces in the Gulf of Mexico, in the prosecution of her contest with the United States. Transported, as she could scarcely fail to be, with her mighty triumphs on the continent, she withdrew her gallant legions from the peninsula, and sent them across the Atlantic, as she confidently anticipated, to an assured and easy victory over the great commercial metropolis of the South. New Orleans was already, not merely in her hostility, but in her deliberate belief, a doomed city. The characteristic confidence of her people was never startled by the anticipation of any possible occurrence which would overwhelm her forces in utter discomfiture and defeat. But the hour was already near. GENERAL JACKSON was ordered by the government to the defence of New Orleans. Hastily summoning such portions of the militia as he could call into the service, and rallying to his aid his old companions, the gallant volunteers of Tennessee and Kentucky, he descended the Mississippi.

On his arrival at the city, he found every thing in a state of destitution, confusion and despair. The whole force which he was able to command was most inadequate in numbers, in discipline, in organization, to meet the veteran host they were summoned to oppose. Such was the condition of the surrounding country that the invaders had only to choose what position they would occupy in the commencement of their operations, and they might immediately make it their own. There was literally nothing to prevent or interrupt the disembarkation of the array from the fleet of the enemy. Not a rampart protected the city from its approach without, while within intestine divisions between the different races of its inhabitants, combining with the timidity of some and the treachery of others, had nearly destroyed all concord, paralyzed all strength, and rendered all hope of a successful defence a vain and idle illusion. The penetrating glance of the commander surveyed every peril which surrounded his position, and, comprehending at once its extent and his responsibility, he vigorously commenced his operations. If an ordinary mind would have been overwhelmed by the overawing and complicated embarrassments with which he was surrounded, it but redoubled the energy and re-inspired the genius of the invincible commander, who was determined to save the city from conquest or sink with his country's banner on the plains before it. Sacrificing without hesitation every minor consideration, and tremblingly alive to whatever might be demanded from his efforts, he bent all the faculties of his gigantic spirit, and strained to its utmost tension every nerve in his physical system to the accomplishment of his lofty duty. Trusting nothing that could be controlled to the hazard of chance, he made all his dispositions with the utmost precision and exactness. He renovated every thing around him. The treachery of the base was confounded; the ardent and patriotic were reinvigorated with new and nobler zeal. Never were more sagacious preparations made, never more wearing hardship endured by a military commander. Perceiving the necessity of carrying consternation into the ranks of the enemy, and of inspiring confidence in those of his friends, he made immediate arrangements for an attack upon a large body of the English army, now occupying a position on the banks of the Mississippi; and the blazing fires of the night battle of the 23d December, waking the invaders from their false security, and rousing his countrymen to an invincible ecstacy, made it but a prelude, sure and certain, to the glorious and indescribable victory of the 8th of January. I am unaccustomed to the language of strategy, and unacquainted with the terms of its science; but I know that on that memorable day an illustrious benefactor wrought out the great work which stands forth the proudest triumph that adorns the annals of his country. And an army overwhelmed, outmatching his own in numbers, in discipline, equipment, experience—in all but in valor and patriotism; the salvation of a city from the carnage, debauchery and plunder of a successful enemy, accomplished, it may almost be said, without a blood stain on the garments of his own troops, establish the military renown of the hero of New Orleans on an imperishable foundation; and the bare remembrance of the joyful acclamations with which he was universally welcomed back from his field of fame, suppresses the voice of all commendation, and renders all the phrases of eulogy tame and superfluous.

Yet once again the military prowess of their honored chieftain is demanded in the service of his country. Its peace is once more disturbed by the piercing war-cry from the wilderness; and murderous bands of the Seminole Indians, incited by the bad men of one country and supported by the perfidy and armed fortresses of another, raise the tomahawk against the peaceful settlers of the frontier—the industrious inhabitants of the hamlet and farm-house. GENERAL JACKSON marches to their relief; and with a vigor and in a spirit all his own, begins, pursues, and terminates the war with triumphant celerity, success and completeness. Every part of its conduct was accomplished with a military intrepidity and moral fearlessness worthy of the conqueror of the Creeks and the victor of New Orleans, which secured the cordial approbation of the government, and found its encomium at once and defence in that masterly despatch of another most distinguished citizen to the minister of Spain, which has scarcely a rival in eloquence or moral sublimity in all our national diplomacy.

The military career of ANDREW JACKSON is now brought to its close. Peace was restored to his country throughout all its extent, and upon all its borders; and the victorious soldier sheaths the sword which he has borne from victory to victory. In

1818 he resigned his commission in the army, and rejoiced once more to retire to the tranquillity of his farm at Nashville. But he could not hope for its protracted enjoyment, since such transcendant success could not long be unattended by imperative calls from his fellow citizens for renewed public service. Upon the incorporation of Florida with the United States, after the treaty of its cession with Spain, and its establishment as a national territory, he was appointed its Governor by President Monroe, and proceeded to the discharge of his important and delicate duties in taking possession of the territory, receiving and protecting the archives from the officers of Spain, and organizing and establishing the territorial government under the laws of Congress. Having accomplished the objects which he had in view in accepting the appointment, he early tendered his resignation and retired from the territory.

In 1824 he was again elected a Senator in Congress from Tennessee, and once more took his seat in the highest branch of the legislative department of the government; but having been formerly nominated by the legislature of that State as a candidate for the office of President of the United States, and having consented to the nomination, he deemed it incompatible with the new relation he occupied towards the people to continue a member of the National Legislature, and he tendered his resignation and withdrew from office.

Towards the close of the administration of President Monroe, the asperity of political feeling had become much soothed and subdued; and in the progress of time and change of circumstances the lines of party division were obscured or neglected in a tolerant and general amalgamation. In such a state of things it is not surprising that different interests, sectional partiality and personal preference should have prevented that concert and union of action in the election of his successor which may be commanded and relied on in a period of more fixed and determinate division of political parties. The result corresponded with what might have been anticipated. Such was the division of the votes of the Electoral Colleges, that no choice was effected by the people; and the election having devolved upon the House of Representatives, voting by States, resulted in the elevation of a distinguished citizen of Massachusetts to the Chief Magistracy of the Union.

During the four years of the administration which ensued, measures of great public interest, involving political and constitutional principles of momentous consideration and importance attracted the attention of the people; and the intensely contested canvass of 1828 terminated in the election of ANDREW JACKSON to the presidency. On the 4th of March, 1829, he entered upon the discharge of its duties; and having faithfully sustained himself in the execution of the high trust committed to his hands, and secured the warm and hearty approbation of a majority of the people, in 1832 he was reëlected for a second term, and closed his public life at its termination, on the 3d of March, 1837.

The administration of PRESIDENT JACKSON is one of the most marked and prominent periods in the political history of our country. Profoundly impressed with a sense of the weight and magnitude of the office, he assumed its responsibilities by a zealous dedication of his ability to its requirements; and he commenced the performance of its trusts and obligations with characteristic fearlessness and energy. While he felt that "the demonstration of *public sentiment* had inscribed great tasks on the list of official duty in characters too legible to be overlooked," and was resolved to pay all possible respect to the manifestations of the popular will, he distinctly perceived the exact position he was to occupy among the functionaries of the government; and declared that "in administering the laws of Congress, he should keep steadily in view the limitations as well as the extent of executive power." Guarding that indispensable department from all encroachment upon its efficacy and independence, he clearly recognized the fact that it was created, preserved, and restrained only by the positive grants and interdictions of constitutional provisions; and that, with all his loftiness of elevation and magnitude of trust, the first officer of the republic was yet but the representative and servant of the people, accountable to them that the powers of his office were neither marred by the degradation of innovation upon its authority nor dishonored by the enlargements of unlawful assumption.

It is not to be disguised that his administration was illustrated by a severe and intense opposition. It is in the very nature of free institutions that the operations of government should be watched with the eye of a keen and jealous vigilance; and much may be pardoned to the spirit of liberty if that watchfulness, in its generous ardor, sometimes aggravates itself into a seemingly harsh and vindictive resistance. It is this privilege of perpetual watchfulness—this unrestricted right of questioning the exercise of power and authority with a stern and unequivocal independence, which constitutes and establishes the freedom of a people united in the bonds of a political organization. And in a community occupying a territory of such vast extent and expansion as our own, stretching from the icy shores of the North to the orange groves of the South, and spreading daily into the almost illimitable wilderness of their national domain—with interests most varied—with domestic institutions dissimilar and almost incongruous—combining with the perplexities of personal interest and the irritation of personal disappointment—it will always be, as it always has been, that the most beneficent action of government will in some quarter or other excite temporary discontent, and provoke an opposition too vehement to admit of an immediate and universal appreciation of its merits. In this inevitable concomitant of the purest and wisest of human efforts, the administration of ANDREW JACKSON but shared the fate of those of all his illustrious predecessors, over which the same cloud was once cast, dimming for a season, in his own expressive language, even " the lights that flow from the mind that founded and the mind that reformed our system."

But in the midst of conflicting opinions in relation to the political expediency, or even the constitutional soundness of some of his measures, justice will at least accord to the head of the administration great vigor in the pursuit of whatever was in accordance with his opinions, and an undoubted integrity of purpose in their adoption. And leaving the heated controversies of the past to the consideration of other times more remote from the ardor of that excitement which may not yet have been all soothed into rest—when the passion that disturbs, the interest that warps, and the prejudice that confounds the judgment, shall no longer interpose their misguiding influences, a grateful people may unite in a common homage of veneration for the great civilian, in remembrance of his unquestioned principles and those more signal services which commanded the rewards of an almost universal respect and approbation.

The great object which ANDREW JACKSON proposed to himself in his civil administration was to maintain and strengthen the republican institutions of his country; for above all other forms of political organization he believed them capable of advancing the refinements and elevation of civilization, the hopes of liberty and the rights of mankind. In his judgment "there are no necessary evils in government. Its evils exist in its abuses. If it would confine itself to equal protection, and, as Heaven does its rains, shower its favors alike on the high and the low, the rich and the poor, it would be an unqualified blessing." His great principle was equality of right—equal diffusion of favor—of protection—of opportunity of enjoyment to all under the genial influence of republican institutions; and therefore, regardless of all the temptations of power, the insinuations of favoritism, and the delusions of the flattering promises of partial and temporary expedients, he strove "to increase the value and prolong the duration of American liberty, by a strict observance of the sacred charter of the constitution, the supremacy of the laws enacted in conformity to its provisions, and the preservation of the Federal Union." For this purpose he studied the provisions of the constitution in a spirit of liberal and enlightened investigation, and arrived at his conclusions of what was a just and true construction to be given to all its parts, only after first acquiring a thorough acquaintance with its cotemporaneous history, the objects sought to be attained in its formation, and the wants of the people whose rights it was intended to secure and protect.

Discriminating, with a keen and close observation, between the powers which it conferred and those which were reserved to the States, he would allow no possible consideration either to diminish or enlarge its grants, its prohibitions, or injunctions. While he held with a grasp which nothing could unloose, the entire measure and uttermost reach of its authority, he stood like an armed sentinel ready to repel with his utmost force every encroachment, by ingenious and plausible construction, beyond its limits. In this scrupulous observance of all its mandates, whether of action or forbearance, his determination was resolute, and his vigilance never tired. He used, with a freedom which knew no limits, because none were prescribed in the instrument by which it was given, the executive power of control over every act of legislation which he deemed an infringement or abuse of its authority. And his presidential vetoes, unfolding his principles, expounding his doctrines, and defending his opinions, are at once among the most animated and convincing of all his productions, and shed lights upon branches of the great body of constitutional law, than which nothing can be found more luminous or masterly in the elaborate disquisitions of statesmen or jurists.

Laws, constitutionally enacted, he held, like the great charter itself, to be supreme and unquestionable; and he felt bound at once to obey, and coerce the obedience of others to all their requisitions. They represented, in his mind, the will of the people, which he regarded as the great sovereignty from which only could emanate any just human authority; and, identified with them in every thought of his mind and every impulse of his heart, it was not less against his nature than the convictions of his understanding to oppose the lawfully expressed manifestations of their will.

The supremacy of the law was, therefore, with him an inborn, ingrained, indwelling principle. He loved and worshipped *liberty;* but it was liberty guarded, restrained, enlivened and protected by established law; not that which rises in rebellion against its guide, or grows wanton and licentious in its prostration. For such law he lived or could lay down his life; and to its universal observance he gave always the devotion of his official superintendence, and the more precious and prevailing influence of his personal example. Its illustrations mark every vicissitude of his existence, and crowd every page of his history. Never, in all the passages of time, was there a sublimer spectacle of obedience to law than when he, the hero of New Orleans, almost in the moment of his proudest victory, laid down the sword he had drawn for his country on the altar of its justice, and though he deemed it most unjust, cheerfully paid the legal penalty of alleged transgression. Who, who does not rejoice that a grateful country has reversed the judgment of its court, and wiped out forever the painful imputation of its record?

For the preservation of the Federal Union, no magistrate ever made nobler exertions, or brought to its support wiser counsels of the understanding, or purer emotions of the heart. The first of duties, it was first also in his affections; and his administration is immortalized in the glory and triumph of its defence. Union, the Union of the States, was with him an object of unceasing hope, unmeasured trust, and commanding veneration. All his efforts, plans, measures, were designed to secure its unmarred integrity. He guarded it with imposing but simple dignity of deportment against all aggression or injustice from abroad; and with paternal solicitude, but inflexible resolution, against combinations formed and dangers threatening its disruption from within.

Upon his accession to the chief magistracy, the government was perplexed with the embarrassment of numerous, long-standing, and complicated causes of complaint against foreign nations, arising chiefly from their aggressions during the violent wars in which all Europe had been involved.

The President resolved that such annoyances should cease to exist. He ascertained, with the utmost precision and exactness, what was the claim of justice and of truth; and for that, and that only, he asked; but he asked in tones of demand which would brook no denial. Refusing to move in the tortuous course of an insiduous and hypocritical diplomacy, he followed the advice and imitated the example of Washington, in the adoption of "the immutable principles of private morality," as the only foundation of all his official intercourse or communication with other nations. He would "ask for nothing that was not clearly right, and would submit to nothing that was wrong." Acting upon this true, this enduring, this republican principle, his demands could be neither evaded, unanswered, or repelled. And he thus procured an honorable restitution to be accorded by the just, and by steady perseverance forced a compliance with the requirements of equity from the reluctant and unwilling. And all these causes of vexatious disturbance were finally removed by adjustments, equitable and satisfactory; whilst amid all the complicated and protracted negotiations by which such results were accomplished, the honor and faith of the country were preserved untarnished; and its peace, undisturbed, was secured in the termination of disputes, and the restoration and prevalence of sentiments only of concord and harmony, Yet, however grateful were these results, or just and appropriate the means used for their attainment, the accomplishment even of such objects was often attended with difficulty, and sometimes with peril; and once, at least, when the jealous sensibility of France hesitated in the path of justice, the signs of war became visible in the horizon, and the lofty attitude and inflexible resolution of the President seemed to render its occurrence inevitable.

It was then that an eloquent opponent of his administration, now returning with distinguished honor from a foreign embassy, said on the floor of Congress —" Sir, if the President will so temper his policy as to carry this country honorably through the controversy without a war, he will draw upon his head the blessings of men whose voices have never mingled with the incense of his flatterers; and his name in the eyes of all mankind will appear fairer and brighter than when he came out from the blazing lines of New Orleans in all the freshness of his victory and its honors." The war *was* averted, and the honor of the country was preserved without a stain or a spot on its shield; and the hope and prediction of eloquence were both realized together. The most chivalrous of nations retired from her position. The irresistible policy of justice averted all peril from the Union, and added new titles of renown to the fame of its venerable chief; and the blessings of the generation who witnessed the bravery of his resolution, and of the generation who mourn his death, have flowed, and will flow continually in an unbroken stream upon his head.

But the republic may receive deeper wounds than foreign powers can inflict with all their armaments. Fleets and armies encountered at the shore or met upon its borders may be beheld without dismay; for the soil that sustains an *united* people, struggling for the liberties of their country, the endearments of its home, and the consecrated altars of its worship, will not long endure the footsteps of a foreign foe. War with other nations, calamitous as it is even in its most favored aspects, has yet redeeming circumstances in attendance upon its progress. The conflict of defence gives new value to national possession, un-folds great virtues, exalts the sentiments of patriotism, and the triumph of arms and the brilliancy of victory become the pledges and security of peace. But the warfare of intestine feuds and domestic convulsion is an unmitigated evil; its corruptions canker the heart and consume the vitals of the community; and it must be suppressed, or its end inevitable is national dissolution, with all the miseries of private calamity and public dishonor.

Undoubtedly by far the most important and alarming political questions which have ever arisen under the constitution since its adoption, were those created by the measures pursued by South Carolina during the administration of PRESIDENT JACKSON, in resistance of the laws of the United States for the collection of its revenue.

Not claiming to exercise that great fundamental popular right which precedes and underlies all constitutions and forms of government—that incontestible, unalienable and indefeasible right of the people to reform, alter, or totally change the government when their protection, safety, prosperity and happiness require it—South Carolina insisted that under the constitution, and in strict conformity to the terms upon which she had entered the Union, and to her obligation to the rest of the United States, it was competent for her people to denounce a law of Congress as unconstitutional, null and void, and to prohibit all execution of its provisions within the limits of her territory. And in pursuance of this extravagant assumption, a popular convention, assembled in conformity to an act of her legislature, assumed the tremendous responsibility of abolishing the obnoxious law, and of placing the State in an attitude of open, direct and undisguised hostility to the General Government. Never could there be in the history of an ardent, generous and free people, a crisis of more thrilling interest or portentous disaster than this ; but never could there have been found a magistrate better fitted for so terrible an emergency than ANDREW JACKSON. In the gravity of his wisdom he paused in the reflection that the prosperity and happiness of the existing and of unborn generations, under a constitution establishing the freest government on earth, bound together in the bonds of a political union cemented with the blood of a noble, self-sacrificing ancestry, depended upon his decision, his prudence, his counsel, and his strength. He examined all the questions involved in the great controversy with the most thorough and searching scrutiny, in every aspect in which they could be considered, in every light in which they could be presented. And throwing himself into the arms of the people, and relying upon their stability in virtue and loyalty in patriotism, he issued in the form of a proclamation one of the most remarkable papers ever addressed by a government to its citizens. Demolishing the sophistry of opposing arguments, and unfolding with the utmost clearness his views of the true principles of constitutional union, he appealed, with all the earnestness that danger could inspire, and all the affection that could warm the heart of a father, to the generous and manly people of his native State to abandon the mad project of disunion, and reunite with their fellow citizens in lawful and constitutional measures for the redress of all real or apprehended grievances. But finally he announced his unalterable determination, upon their refusal to comply with their constitutional obligations, to enforce the execution of the laws they had assumed to annul, at the hazard of every consequence. His simple but authoritative mandate—"the Union, it *must* be preserved"—came like sunshine through the cloud, like the benignant light of the guiding star through the mists of ocean to the anxious mariner tossed on its billows. The effect was electrical, grand and decisive. The ranks of opposition swayed away from their organization, and every defender of the constitution rushed to the rampart to stand by its noble and fearless representative. The voices of congratulation, of defence, of compromise mingled together, and the thanksgivings for an Union preserved went up once more from the hearts of an united people.

It is of the glory of Washington, that he impressed upon his countrymen, in language worthy to be uttered by the father of his country, the value of our national union—urging upon them "to think and speak of it as the palladium of their political safety and prosperity, watching for its preservation with jealous anxiety, and indignantly frowning upon the first dawning of any attempt to alienate any portion of our country from the rest, or to enfeeble the sacred ties which now link together the various parts." But ANDREW JACKSON lived in the times which the prophetic eye of his illustrious predecessor foresaw were among the possibilities of future disaster: and it is of *his* glory to have practically exemplified the exhortation of Washington by an actual salvation of the Union in its integrity against the most formidable and dangerous combination concerted for its destruction. The hopes for its perpetual duration were never brighter than when his eye cast its last glance on the prosperity of his country.

The serene tranquillity of the years of his declining age are in touching contrast with the fervid energy of his life of public employment. He turned, when that employment was past, with thankful gladness, back to the home of his youth and his affection, to seek in its seclusion repose from the pressure of constant care and unremitted excitement. With what just satisfaction might the venerable patriot look back from the sequestered shades of the Hermitage, upon a life of such service! so true to his country! so ennobled his illustrious achievement! With animating recollections of the past, and a heart always beating for the welfare of the people he served, his old age was sustained by the consolations of friendship, and the unfailing hope of religious trust. The plaudits of his hour of glory were softened into benignant benedictions at his tomb.

His character is developed in the history of his life. ANDREW JACKSON was undoubtedly one of the most remarkable of the great men of his age. In all the relations of life he presented manifestations which marked his preëminence, and assured his ascendancy. From a childhood which in its origin gave no promise of advancement, he rose to the highest stations of military command and civil authority, and the magnificence of the triumphs of the soldier was transcended only by the majestic successes of the statesman. His patriotism knew no bounds but his country; and the hope, the joy, the ambition of his heart, all centred in its prosperity under the everlasting Union of the States.

If you would honor his memory, remember that great lesson of his love and affection, and devote yourselves to the preservation of the Union; knowing that your efforts in its behalf are the noblest manifestation of your cherished attachment to the counsels of his life. Teach to your children its history; and bid them emulate the bright examples of the heroes, the statesmen and patriots who have gone before them. The avenues to the citadel of strength and posts of honor are open to universal competition. The freedom-giving institutions of our country call to her highest honors her children from the workshop, the city, and the farm.

This is the history of the past and the prognostic of the future. The youthful Washington was but a surveyor of land; the philosophy of Franklin started with his apprenticeship in a printing office; ANDREW JACKSON was an almost uneducated orphan boy of the wilderness; the hosts of the illustrious dead and the ranks of living eminence have come, if there be such a thing in our glorious country, from the humblest origin. No man knows to what destiny his son shall succeed; but knowing that he may rise to the highest—that his career may inscribe the deepest lines that shall shade or adorn his country, let the purest patriotism be instilled into his bosom, and inspire the dawning vision of his expanding faculties.

So shall the Union—the glorious and time honored Union of the United States—be preserved and sustained; and sent on, a combination of power—a spectacle of heart-cheering magnificence and an inexhaustible fountain of blessings to succeeding posterity; that when age after age the fathers shall be sleeping in silence, there shall be, forever, a generation of sons to rally under the spreading folds of its glorious banner, to defend and enjoy their inheritance of freedom.

City Document.—No. 26.

REPORTS

OF THE

ANNUAL VISITING COMMITTEES

OF THE

PUBLIC SCHOOLS

OF THE

CITY OF BOSTON,

1845.

BOSTONIA
CONDITA A.D.
1630.

BOSTON:
J. H. EASTBURN, CITY PRINTER.

1845.

CITY OF BOSTON.

In School Committee, September 11, 1845.

Ordered, That ten thousand copies of the Reports of the Annual Examining Committees, be printed for distribution among the citizens.

Resolved, That in ordering the Reports on the Grammar and Writing Schools to be printed and distributed, this Board are not to be understood as adopting or rejecting the views therein contained, or expressing any opinion respecting them. And that this resolution be printed with the Report.

A true copy.

Attest, S. F. McCLEARY, *Secretary.*

REPORT

OF THE

SUB-COMMITTEE OF THE LATIN SCHOOL,

MADE AUGUST 5, 1845.

To the School Committee of Boston.

The Sub-Committee of the Latin School, respectfully report that they examined said School on the 24th ultimo, and found it in its usual good condition.

The whole number of pupils was	139.
Average attendance in July,	126.

EDWARD WIGGLESWORTH,
WILLIAM HAGUE,
THEOPHILUS PARSONS,
J. I. T. COOLIDGE.

Boston, August 5, 1845.

REPORT

OF THE

SUB-COMMITTEE OF THE ENGLISH HIGH SCHOOL,

MADE AUGUST 5, 1845.

The Sub-Committee of the English High School, respectfully report,

That they visited the School on four different days in the month of July, for the purpose of making the Quarterly and Annual Examinations. They examined the School in its several departments, and were impressed with the thoroughness and accuracy manifested by the scholars generally in their various studies. In Algebra and Geometry, especially, there was great proficiency, and the only thing in which there appeared any deficiency was the pronunciation of the French language, entire accuracy in which can of course be obtained only from a French teacher. The result of the examination has satisfied the Committee that the School maintains the high character which it has long held; and although they are far from intimating that there is no further room for improvement, they are fully of opinion that this Board and the Public have no reason to be dissatisfied with its present condition.

All which is respectfully submitted.

ALEXANDER YOUNG,
AURELIUS D. PARKER,
WINSLOW LEWIS,
SAMUEL G. HOWE,
EZRA PALMER, JR.

Boston, August 4th, 1845.

CITY OF BOSTON.

In School Committee, May 6, 1845.

Ordered, That Messrs. Parsons, Howe, and Neale be a Committee to make the annual examination of the several Grammar Schools, and report at the quarterly meeting in August.

Attest, S. F. McCLEARY, *Secretary.*

To the School Committee of the City of Boston.

GENTLEMEN:

Your Sub-Committee, appointed for the purpose of making the Annual Examinations in the Grammar Department of all the Schools, have attended to their duty, and submit the following

REPORT:

A single glance at the nature of the work assigned to us, shows its extent and importance. There are nineteen Public Grammar and Writing Schools in the City of Boston; sixteen being divided into two parts, with two masters independent of and unconnected with each other; and three others, the Lyman School at East Boston, the New South in the extreme southern section of the City, and the Smith School, set apart for the instruction of colored children, being organized as single Schools, with but one master, who superintends the writing, as well as the grammar department.

It has long been the custom to appoint an Annual Committee to visit and examine the Writing Department in all these Schools, and another to visit and examine the Grammar Department, and for each to make a separate report. It was, however, found to be impossible to do any thing like justice on the examination, for Committee-men could not be found who could give the time necessary to examine over 7,000 children. A few years ago it was ordered, that the Annual Committee might limit their examination to the first class in each School; and it was under this order that your Committee was appointed. But although we were to examine only the first class in nineteen schools, still the task was a very difficult one, for we were expected to judge of the real and comparative merits of the whole School; because long custom,—the common law of the Committee,—required us to attend to many points of inquiry not especially named in the order.

The School Committee has no way of obtaining a condensed and comparative view of the condition of all the Schools, except through the Reports of its Annual Committees; and it does not obtain these until more than half the year for which it is chosen has expired. It was in view of the great importance of the subject, that your Committee, anxious to do all that could possibly be done towards a thorough and satisfactory examination of the Schools, resolved to adopt, in addition to the usual mode of oral examination, the plan of submitting to the scholars a series of printed questions on all the subjects studied in the Schools. These questions were so graduated that the simpler could be understood and answered by any children of common sense and ordinary attainments, while the more difficult would tax the powers of the best of our scholars without being quite beyond them. For instance, in Geography, the first question was, What are the principal lakes in North America? Another was, Upon which range of mountains is the line of perpetual snow most elevated above the ocean; the Rocky Mountains of North America, or the Cordilleras of Mexico?

Most of these questions might be answered by children who are familiar with the text-books used in our Schools; all of them by children to whom those text-books had been fully and familiarly explained by good teachers.

It was our wish to have as fair an examination as possible; to give the same advantages to all; to prevent leading questions; to carry away, not loose notes, or vague remembrances of the examination, but positive information, in black and white; to ascertain with certainty, what the scholars did not know, as well as what they did know; to test their readiness at expressing their ideas upon paper; to have positive and undeniable evidence of their ability or inability to construct sentences grammatically, to punctuate them, and to spell the words. One of the papers prepared was a list of words to be defined, all of them taken from the reading book used in the class; another was a set of questions upon Geography; another upon Grammar; one upon Civil History; one upon Natural Philosophy; one upon Astronomy; one upon Whately's Rhetoric, and one upon Smellie's Philosophy.

No School had studied Smellie, or Whately, and therefore none could be examined in these;* fifteen declined to be questioned on Astronomy, six upon Natural Philosophy, and two upon History; all of the Schools were examined in Geography, English Grammar, and Definitions.

Our plan of proceeding was as follows. In order to prevent the children of one School from having an advantage over those of another by ascertaining what the questions were to be, they were privately prepared and printed; then, without any previous notice, each member of the Committee commenced at 8 o'clock in the morning with one School, and spread before the first division of the first class the printed questions in geography. The maps and books were put out of the way; the scholars were placed at a distance from each other, so as to prevent communication by whispers; they were told that they would have one hour to answer the questions, and that they should not lose time in trying to write handsomely, as the chirography would not be taken into account. Then they were set to work. Notwithstanding all that was said about their being taken by surprise, about their being unused to such a mode of questioning, about their inability to express what they knew in so short a time, we found that in a few minutes they were all busily at work; all adapted themselves to their new circumstances with that readiness which characterizes our countrymen, without embarrassment, and, generally, *they had exhausted their power to answer before the hour expired.*

At the end of the hour, the Committee-man gathered up his papers, and went as quickly as possible to the next School, remained there an hour, and then proceeded to a third. After the noon intermission, the Committee commenced again and visited three more Schools; thus each Committee-man finished the examination in geography of six Schools, and the three finished all the Schools in the City. The next day we took the questions on another subject, and thus finished the whole.

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* These studies are permitted, but not required.

We were sorry to feel obliged to adopt these and other precautions, which seemed to imply a suspicion upon our part, that attempts might be made by individuals to defeat the object of the examination, and to take an unfair advantage of any knowledge which might be obtained of the nature of the questions; and we are still more sorry to say, that the result has proved those precautions to have been necessary, though not exactly for the reasons we had anticipated. During the noon intermission, the boys, for instance, who attended a School which had been examined, may possibly have communicated to their playmates, who attended a School which had not been examined, some of the words which were to be defined. This may have occurred in a very few instances, and might have been generally the case had we allowed a night to intervene. But boys are generally honest, and careless too; and perhaps not ten availed themselves of the knowledge so gained. We were pained, however, to find, that, though many of the masters coöperated with us, some did not.

We extended our examination into some of the Schools in the neighboring towns and states, and gained much useful information from them. But we include only the Dudley School in Roxbury among our returns. We examined this first, and were *certain* that neither master nor scholars knew any thing beforehand of our questions. Of those examined afterwards, there was some doubt, and we therefore omit them.

With regard to the Schools in the City proper, we believe, that upon no one subject except definitions, was a knowledge of the questions obtained by the scholars of any School previously to their being presented by the Committee; and even in regard to definitions, very little advantage was gained by any one School. Fraud ever carries a suspicious front; the natural language of a cheat can be detected even in his mode of writing; and the unfairness in one School was discovered by a glance at the written answers. But in almost every set of answers obtained from the Schools, there is internal evidence of honesty;—honest ignorance, and honest error, as well as honest accuracy. Those masters, or others, who may attempt to undervalue the accuracy or importance of these returns, for the sake of saving the character of particular Schools, will sink all the Schools low indeed; for if, with the aid of a previous knowledge of the questions, the answers are so very unsatisfactory, what must they have been if no one had meddled with a trial which was designed as a fair one, and which certainly was as fair for one school as for another?

But we repeat the assertion, that, to the best of our knowledge and belief, the statistical returns which we submit will present the fullest and the fairest means for judging of the real merits and demerits of our Schools, and of their comparative rank, which have ever been embodied so as to be within the reach of any but actual examiners of the Schools. We may say this safely, because it is perhaps the only statistical information which has ever been so embodied.

We may remark here, that there were, in some of our lists of printed questions, typographical errors of spelling, punctuation and grammar, which were discovered too late for correction; and that in many Schools the scholars were directed to correct such errors, as a part of their exercise.

We now proceed to consider the statistical returns.

The first feeling occasioned by looking over these returns, is that of entire incredulity. It is very difficult to believe that, in the Boston Schools, there should be so many children in the first classes, unable to answer such questions; that there should be so many who try to answer, and answer imperfectly; that there should be so many absurd answers; so many errors in spelling, in grammar, and in punctuation. If by any accident these documents should be destroyed, we could hardly hope that your faith in our accuracy would induce you to believe the truth if we told it. But the papers are all before you, each signed by the scholar who wrote it.

The whole number of pupils present in the Schools on the days when we examined, was 7526; the whole number offered for examination,—a number comprising the flower of the Boston Public Schools,—was 530; their average age is about thirteen years, six months.* The whole number of questions put to them

In Geography,—was	31
Definitions,	28
Grammar,	14
History,	30
Natural Philosophy,	20
Astronomy,	31
Making a total of 154 questions.	154

To these there should have been 57,873 answers, if each scholar had been able to answer; but there were only 31,159, of which only 17,216 were correct in sense, leaving unanswered 26,714. The 31,159 answers contained 2,801 errors in grammar; 3,733 errors in spelling; and 35,947 errors in punctuation. Some of the errors in punctuation were of no great consequence; for instance, in enumerating the rivers or lakes of a country, the scholars often omitted to put commas between the names; and a large proportion of the errors arose, doubtless, from mere haste. But punctuation is very much a matter of habit, and if the children had been accustomed to punctuate carefully, they would not have failed so egregiously.

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* In the Girls' Schools, the average age of the scholars examined is about 14 years.

These results are surprising, when it is considered that the answers were very short,—some merely an affirmation or a negation in one word. They would, however, have been more so, had we rigidly adhered to the rules of criticism, and set down every answer as incorrect which was not faultless; but we have put the most lenient construction upon the answers, and whenever it appeared that the scholar had any tolerable idea of the subject, we have recorded his answer as correct. If we had put down as correct only those answers which were perfect in regard to sense, to grammatical construction, to spelling and to punctuation, the record would have been very short.

But no generalization of this kind can give an idea of the true state of the case; let us therefore descend to particulars, and take up each subject; and first that of Geography.

There were 31 questions,—some very simple, some rather difficult,—but not one which well-taught children, of fourteen years of age, should not answer. To these questions, which were put to 487 children of our first classes, there should have been 15,097 answers; but 5,233 were not answered at all; 4,671 were answered incorrectly, and only 5,193,—or about one third of the whole number,—were answered correctly; while the answers contained 63 errors in grammar, 1,759 errors in spelling, and 14,025 in punctuation.

The careful observer will learn, by looking over our tables, the general system of instruction pursued in our schools; namely, that of verbal or book knowledge; and by comparing one School with another, he will see what masters vary most from the usual routine, and teach most thoroughly. Generally speaking, the questions which would be asked by one who teaches from books, as the names of the principal lakes, rivers, &c., are answered correctly; but take such a question as this, Do the waters of Lake Erie run into Lake Ontario, or those of Ontario into Erie?—and 287 answer correctly, while 130 answer incorrectly. Now, if we take into consideration what is unquestionably true, that many of those who did not know, answered by guess, and that they were just as likely to guess right as wrong, much the largest proportion of our best scholars could not tell which way the waters run, in spite of all the fame of Niagara!

To the question: What is the general course of rivers in North and South Carolina; and in Tennessee and Kentucky?—pretty correct answers were given; but to the next question: What is the reason that the waters of these four contiguous states run in opposite directions?—only 128 showed by their answers that they had ever thought of the reason; 308 did not answer at all; and of the 51 incorrect answers, most were as vague as the reply of one scholar, who said, that these waters run in opposite directions because it was the will of God!

To the question, What is meant by the line of perpetual snow,—only five per cent. of correct answers was given; and to the question, Upon which range of mountains is the line of snow most elevated above the ocean, the Rocky Mountains of North America, or the Cordilleras of Mexico?—only nineteen per cent. answered correctly, notwithstanding it is a question upon which guessers were as likely to go right as to go wrong.

The highest percentage of correct answers, in geography, in the Boston Schools, was forty-six per cent., in the Winthrop School. The lowest, excluding the Smith, was eighteen per cent. in the Otis. The percentage in the Dudley School,* Roxbury, was fifty-five.

The verbal examination which followed in geography, confirmed the opinion which would be drawn from the answers to the printed questions. In a few schools, the children seem to have been taught orally, and upon correct principles; but generally they were lost when taken out of the common routine of questions. They could bound states and countries; name capitals, capes, and mountains; enumerate rivers, lakes, and bays; and answer a series of questions put by the master, of half an hour's duration; but, questioned as to the drainage of countries, their capacities for commerce, the causes which direct streams and determine the force of water,—their want of comprehension of these and similar subjects, showed plainly, in almost every school, that they had learned geography as if it were only a catalogue of names of all the divisions of water, from ponds up to oceans; of land, from towns to empires.

In reviewing the answers to the questions upon History, the same conclusion presses upon us as on examining the questions on the other subjects. The scholars have, for the most part, learned to recite the words of the text-book, without having had its spirit illustrated, and without having been accustomed to think about the meaning of what they had learned. A list containing thirty questions was submitted to 438 scholars, and certainly there is hardly a question which any child of thirteen, who had studied history, should not answer; nevertheless, instead of the 13,140 answers which should have been given, there were only 5,933; of which only 3,567 were correct; 2,366 were incorrect; and the answers contained 206 errors in grammar, 629 errors in spelling, and 5224 in punctuation.

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* We consider the Dudley School a *fair* sample of the *best* schools in our neighborhood.

To questions such as these,—What is history? What are some of the sources of history?—the answers were correct and full, because they were in the text-book; but to the questions, What was the period of the Commonwealth in England? and, Who was the most distinguished character in it? only 63 answered correctly; 80 answered incorrectly; and 295 did not answer at all. To the question, At what period was the present federal constitution adopted, during, or after the war of the revolution, and how many States adopted it at its formation? only 139 answered correctly; 190 answered incorrectly; and 109 could not answer it at all.

But the answers to the following questions show most undeniably, that in many schools, nothing but the words of the books are learned, and that these are often learned without understanding their meaning. First came the question, When was the embargo laid by President Jefferson, and when was the non-intercourse act substituted for it? To this many scholars could answer correctly, while they could not answer correctly the question which came soon after, viz: What is an embargo?

We would here remark, that in judging of the schools by the statistics of answers, care must be taken to compare the number of the class who answered, with the total number in the school; as a master who, out of a school of 400, presents a class of 50 for examination, will not have so high a percentage of correct answers as one who presents only 25.

A careful judge will also discriminate between the questions, and award most credit to those schools which give a high percentage of correct answers upon questions involving principles rather than facts. This will be illustrated by comparing the answers of some schools to the two preceding questions. In one school, the Adams, 15 out of 20 answered correctly as to the date of the embargo, while only one of them could tell what an embargo meant. In another, the Hawes, 13 out of 17 knew about the date of the fact, but only 4 could tell what the fact was,—what the word *embargo* means—and 6 gave an incorrect definition of it.

On the other hand, in the Bowdoin School, only 15 out of 42 knew *when* the embargo was laid; but 29 out of the 42 defined it correctly. In the Brimmer School, where 6 knew the date of the embargo, 13 could define it correctly.

Now this is a case illustrative of that to which we shall often allude;—the practice of teaching the name of the thing rather than the nature of the thing. It is worth positively nothing to know the date of an embargo, if one does not know what an embargo is. Nay, it may be worse than nothing, because some erroneous idea will be attached to it, as must be the case in the minds of those scholars who defined embargo to be "a duty."

In history, the written answers show the Adams school to be highest, having a percentage of 59 of correct answers; and the next to be the Bowdoin, which has a percentage of 48. The lowest is the Phillips, which has only 8 per cent. of correct answers, and the next above it is the Otis, which has 9 per cent. The Dudley School in Roxbury has a percentage of 42.

In the oral examination which followed, the scholars generally did better, and it is probable that there is more of oral explanation in this branch than in any other.

But the most striking results are shown in the attempts to give definitions of words.

There were twenty-eight words selected from the reading book, which the classes have probably read through during the year, and some probably more than once. Some of these words are the very titles or headings of reading lessons; some of them occur several times in the book; and yet, of the 516 children who had these questions before them, one hour, not a single one defined correctly every word; only 47 defined half of them; and 39 could not define correctly a single one of the whole 28 words. It is true that some of the words are not in common use, and are what are called *hard words*, but these are the very kind of words which should be explained to our upper classes;—as for the easy words, they learn them in conversation. Take the word "*infatuated;*" this is not a rare or an uncommon or a difficult word; nevertheless, only 62 out of 516 children answered it with any correctness.

"Panegyric" is not a very uncommon word, yet only 87 out of the 516 answered it correctly; while the approximations of many, as calling it a "strong medicine," "a universal medicine," &c., showed how they were misled by the resemblance of the word to other words.

"Misnomer" is not a very uncommon word, yet only 160 out of 516 defined it with any correctness.

Some of the answers are so supremely absurd and ridiculous, that one might suspect the boys of attempting to jest with the Committee, were it not that there are marks of honest attempts to trace analogies between words which they did know and words which they did not. Many of the children were probably set upon the chase after their meanings for the first time, and it was not strange if they should make great mistakes.

People may think that it is unreasonable to expect children to define such words as Thanatopsis, and a few others which will be seen in the tables in the appendix; and masters may say they have explained the word, but their scholars cannot remember it. But here is a very important principle in question. The masters wish to have their children pronounce correctly every word in the Reader; they tax the memory of their pupils, and it yields every thing that is demanded; the scholars will not fail to remember how the eleven letters should be pronounced when so arranged as to make thanatopsis; they would expect an instant rebuke if they hesitated at it or mispronounced it. Now if the memory suffices to recall the *sound*, why should it fail to recall the meaning? Will any one say that it is easier to remember the exact pronunciation of French or German words, than their meaning? Or can any one explain why 86 per cent. of the scholars in one School, the Bowdoin, should define the word correctly, while not one pupil in three other Schools, (Mather, Phillips, and Smith,) and not 26 per cent. in half a dozen other Schools, could define it correctly, without admitting what we have stated elsewhere,—that the powers of the pupils are taxed to their greatest effort in those branches of study in which they are most likely *to make a show.*

But waving all reasoning, we admit that Thanatopsis, (like some other words selected,) is a rare and difficult one, and it would not have been chosen, were it not the heading of one of the lessons in the Reader, and the name prefixed to one of the most beautiful gems in the whole collection of American poetry.

The Eliot School (the highest) gives 55 per cent. of correct answers; the Phillips School (the lowest) gives 8 per cent.; the Dudley* School gives 45 per cent.

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* The Reader from which these words were taken is not used in the Dudley School.

Eleven Schools were examined in Natural Philosophy. To the first division of the first class in these Schools, we gave printed papers, containing twenty very simple questions, and required answers to as many of them as could be written down in one hour.

As a general thing, the answers are better than in the other branches, as might be expected, for the subject is one which is in itself very interesting, and it almost necessarily requires the masters to seek for illustrations out of the text-book. But even here there is too much teaching by rote, as will be seen by the tables. To the question: What do you understand by the centre of gravity of bodies?—195 out of the 279 answered correctly. To the next: *Define momentum*,—133 out of the 279 answered correctly. But to the question: If a grindstone should suddenly split in pieces while whirling rapidly around, would the pieces fall directly to the ground or not?—only 63 out of the 279 answered correctly; and to the simple question, which involves an important principle: Whether a pound of water occupies most space when liquid or when in the state of ice?—151 out of the 279 answered wrong, and 55 answered not at all.

In Natural Philosophy the highest per centage is in the Bowdoin School, 36 per cent.; the lowest is in the Johnson School, 12 per cent.; the Dudley School gave 36 per cent.

The last subject was that of Astronomy, in which thirty-one questions were put; varying from those of the simplest nature, such as,—What is the radius of a circle?—up to questions about tides, change of seasons, &c.

In only four out of the nineteen Schools had astronomy been studied. In these, 104 scholars were offered for examination.

The same peculiarities were observed here as in the other studies,—a more familiar acquaintance with the text-books than with the principles involved,—although a remarkable deficiency of knowledge, even upon subjects defined in the books and of essential importance, was observable. For instance, not one scholar answered the question: What is the altitude of a heavenly body? Only six scholars answered correctly the question: How many times does the moon revolve about the earth in one year? To the simple question: At what angle is the axis of the earth inclined to the plane of its orbit?—only 10 answered correctly; 19 answered incorrectly, and 75 did not answer at all. To the comparatively unimportant question of—How many secondary planets are there in our solar system?—77 out of the 104 answered correctly; while, to the question about the causes of the change of the seasons, only 23 answered correctly, 22 answered incorrectly, and 59 did not answer at all.

Out of the whole number of questions in astronomy, 977 were answered correctly, 634 were answered incorrectly, and 1613 were not answered at all. The answers contained 38 errors in spelling, 47 in grammar, and 869 errors in punctuation.

One general inference to be drawn from an examination of these answers is, that it is difficult for our scholars to learn to spell correctly, without being more in the habit of writing than they now are. Scores and hundreds of errors, of the most palpable kind, have been committed in their written answers, by children who would spell the very same words correctly, if they were called up in the usual way, and had the words pronounced aloud to them. The principle is the same as that by which they are trained to read words correctly, which they do not understand. The visible form of the word suggests the idea of the audible sound by which it is to be expressed; in spelling aloud, the audible sound recalls the visible form, or the arrangement of the letters; but if called upon to arrange the letters, or to spell without the aid of the sound, or of the spoken word, that is, if called upon to write, they are very apt to go wrong.

With regard to grammar, it is rather more difficult to form a correct idea of the acquirements of the scholars from the statistics in our tables than with regard to other studies.

Scholars differ very much from each other, with regard to the conciseness of their mode of parsing; and undoubtedly some who answered only a small percentage of the questions, would have answered nearly all of them if time enough had been allowed them.

The Boston Schools we think would be rated very high in comparison with the best Schools in the world, on the subject of technical parsing. It would seem impossible for a scholar to take up a stanza of Childe Harold and parse the words correctly, to perceive, that is, the connection and relations of the words, and yet fail to feel the force of the metaphors, or to understand the sense of the whole stanza; nevertheless, this is done sometimes. Such is the power of drilling! Such is the effect of close attention to the mere osteology of language; to the bones and articulations, in forgetfulness of the substance that covers, and the spirit that animates them.

The whole number of questions in grammar was 14;—some being merely requisitions to write a simple sentence, containing an active transitive verb and an objective case; and others being sentences which contained false syntax to be corrected.

To such questions as, *When do you use a instead of an? What is the difference between an active and a neuter verb?* the answers were almost all correct. To the question: *What is the difference between an ordinal and numeral adjective?* 134 answered correctly and 88 incorrectly; and 234 not at all.

The first sentence which contained false syntax to be corrected, was written out correctly by 138 of the whole number 456; incorrectly by 187, and not at all by 131.

But the answers to the questions in grammar are the best proof that scholars may parse technically, and point out the relations of words, their mood, tense, case, person, number, and gender; and yet, in the very sentences which they make use of to express these relations, and in quoting rules in justification of what they write, be continually making blunders; and may parse their sentences grammatically, in the most ungrammatical language. The whole number of answers given was 4,183, and these contained 962 errors in spelling, 2247 errors in grammar, and 8,980 errors in punctuation.

The highest percentage of correct answers upon the whole number was in the Adams School, being 61 per cent.; the lowest, (saving always the Smith School,) was in the Otis, 15. In the Dudley School it is 51 per cent. It is to be remembered, however, here as elsewhere, that allowance is to be made for the number of the class examined in proportion to the total number in the School; including this element in the calculation, the Adams will not rank so high.

There is one painful reflection forced upon the mind by the answers generally; and this is, that while in some Schools the scholars seem to be conscientious, and do not answer questions about which they are ignorant; in others they appear to be perfectly reckless, and put down answers quite at hazard, in the hope of hitting upon something that may pass for an answer. This shows an habitual carelessness in giving answers, or a want of that nicely-trained conscientiousness, which deters from trying to appear what one is not.

There is another sad reflection suggested by these answers. They show beyond all doubt, that a large proportion of the scholars of our first classes, boys and girls of fourteen or fifteen years of age, when called upon to write simple entences, to express their thoughts on common subjects, without the aid of a dictionary or a master, cannot write, without such errors in grammar, in spelling, and in punctuation, as we should blush to see in a letter from a son or daughter of their age. And most of these children are about finishing their School career; they are going out into life; some to learn trades, some to assist their mothers in the house; the larger part never to receive any supplementary education; and how, we ask, are they, by and by, to write a letter that they would not be ashamed to exhibit?

But there is a still more melancholy consideration, which is, that, if the first class,—if the children who have, during a year, enjoyed that special care and attention which our teachers give to the upper classes, go out imperfectly instructed, what must be the case with the hundreds and thousands of the children of our less-favored citizens, whom necessity forces to leave the schools without even reaching the first class! We know that the value of the services of most of our ushers would be underrated by proportioning it to their salaries; and that great injustice would be done to the many excellent instructresses, by supposing their work, as assistants, to be worth to the scholars only one-sixth the work of the masters,—but, if there be any thing like justice in the low rate at which the City remunerates their services, those who receive *their* instruction *alone*, must go out from the schools but very poorly taught.

There is, however, in the papers which we lay before the Committee, evidence that such a state of things needs not continue for ever. That evidence is to be found in the papers written by the first classes in our *best* schools, and especially in those written in some of the neighboring schools,—schools kept at much less expense than our own,—kept by masters not superior to our best ones, and which produce better results, because they have a better organization, and a more effective supervision.

We do not recommend the table of rank which we have prepared, and which is annexed in the appendix, as affording a precise estimate of the merits of the Schools. It is based upon the comparative amount of correct answers given to our questions; and even if it were a perfect demonstration, instead of an approximate estimate of the comparative intellectual acquirement of the scholars, still we would not have it considered as an absolute test of the merits of the schools. Far be it from us to consider intellectual activity and intellectual acquirement as alone worthy of consideration. Since the world will have it so, let such rewards as medals, prizes, parts, &c., be bestowed upon intellectual strength, as the wreath in olden, and the championship in modern times, have been awarded to mere physical strength; but let us look to the cultivation of the religious sense, the supremacy of conscience, the duty of self-culture, the love of knowledge, the respect for order,—let the presence or absence and measure of these be taken into account, before we say which school is first or which is last. Upon this we shall not decide, but simply remark that, tried by these standards, some Schools that now stand high would stand low, and some that are not conspicuous would be in the foremost ranks.

Besides this examination by printed questions, the Schools were also visited, and examined, as we have already said, orally. Putting these two methods together, the following are the results. But we cannot refrain from saying, that after all the labor we have undergone, we still feel that we have not a complete or perfect knowledge of our Schools, and we give these results only as an approximation to the truth; the nearest that we could reach, and perhaps the nearest that can be reached without a far better supervision than our present system permits. We wish the following to be regarded *only* as a *comparative* view of the Schools, and not as a statement of their absolute worth.

LYMAN SCHOOL,—*Mr. Bowker.*

This School is rather above the average, in the amount and character of the instruction. The relations between the master and the pupils seemed to be satisfactory.

ELIOT SCHOOL,—*Mr. Sherman.*

We found the reading of average quality, but wanting in animation. The instruction in all the branches appeared to be too technical, and limited to the words of the text-books. There was a want of life and energy in this School. The order appeared to be good.

HANCOCK SCHOOL,—*Mr. Adams.*

The moral tone of this School was very good; but intellectually it scarcely reached the average of girls' Schools. The instruction seemed too much confined to the books. The reading was quite correct, but rather monotonous.

ENDICOTT SCHOOL,—*Mr. Allen.*

The reading was good. In Geography, the scholars were quite imperfect; no use was made of the globes. The history was confined to that of the United States; but with this, as it stands in the text-book, the scholars were familiar. The grammar was much too technical.

MAYHEW SCHOOL,—*Mr. Swan.*

There was an appearance of activity and general intelligence in this School. The relations between the master and the scholars seemed to be kindly. In the written examination, the scholars did not appear so well as in the oral.

BOWDOIN SCHOOL,—*Mr. Andrews.*

This school we place decidedly at the head of our Schools for girls. The reading was particularly good; clear, distinct and graceful. We could not but notice the excellent relation which seems to subsist between Mr. Andrews and his scholars. It is equally honorable to him and to them; and we think we are justified in attributing to it much of their excellence in all the branches of study. After making all proper allowance for the composition of this School, and for the length of time during which scholars remain in it, it must still rank very high. Some branches are not introduced here which are studied in some other Schools.

BOYLSTON SCHOOL,—*Mr. Baker.*

Reading not very good; rather careless and inaccurate. The instruction generally too technical, but still above the average. The order among the boys is not very good. Allowance here should be made for the location of the schoolhouse, and for the inconvenience of the edifice; still we must recommend to Mr. Baker a greater attention to discipline. We were pleased with his kindliness of manner, and should be glad to see him at the head of a girls' School.

THE ADAMS SCHOOL,—*Mr. Barrett.*

This school seemed to us somewhat characterized by a want of energy and activity. The reading was indifferent and lifeless; but in many of the branches of study we saw evidence of considerable proficiency. Some allowance must be made for the fact that only the required studies are introduced; this will lower the school a little in the rank which it occupies in the table.

FRANKLIN SCHOOL,—*Mr. Field.*

The instruction here, although quite too technical, still seemed rather above the average, on the oral examination, particularly in physical geography. We thought we saw too great a difference between the *best* scholars and the others.

JOHNSON SCHOOL,—*Mr. Parker.*

There appeared to be much activity in this school, and the pupils manifested much earnestness in their studies. The prevailing,—almost universal,—fault exists here also. The instruction, where not limited to the words of the book, appears to embrace little more than is absolutely necessary to some comprehension of the printed text. But, upon the whole, we are disposed to place this among our best schools.

WELLS SCHOOL,—*Mr. Walker.*

The instruction in this school seemed to us rather too technical and narrow, with the exception of grammar. In this important branch the girls were well instructed. The reading indicated great care and labor, but not, we think, perfectly good taste. Some of the pupils certainly read extremely well ; but in too many instances the reading was affected and theatrical.

HAWES SCHOOL,—*Mr. Crafts.*

The first class of this school was remarkably small. We have here to complain of the common fault of narrow, verbal, technical instruction ; and we were by no means satisfied with the relations between the master and the scholars.

MATHER SCHOOL,—*Mr. Stearns.*

If we judged of this school only by the oral examinations, we should place it much higher than it stands in the tables. The instruction given seems to cover less ground than in some of the schools, but is very good. The moral tone of this school appears to be excellent, and we regard it, in this respect, as among the very best we have.

WINTHROP SCHOOL,—*Mr. Williams.*

This also is among our best. The master is zealous, and contends successfully against adverse influences. By directing his efforts, and particularly those of his assistants, still more towards the developement of the understanding of his pupils, so as to secure their comprehension of what they study and learn, he will remedy the principal defect in his school, and make it yet more useful.

BRIMMER SCHOOL,—*Mr. Bates.*

The excellent master of this School has not been in it quite long enough, to produce all the good effects which may be expected from his methods and principles of discipline and instruction; but we regard it as entitled to praise, and as of much promise. The boys of the first class have an uncommon degree of familiarity with the history of the day, and a general intelligence, which was perfectly obvious to the Committee, but of which no record can appear in our tables.

OTIS SCHOOL,—*Mr. Shepard.*

We were not pleased with the condition of this School; but it has been very recently established, and the master is fully entitled to a longer probation before any opinion is formed against him.

NEW SOUTH,—*Mr. Hyde.*

This small and recently established School exhibits evidence of zeal, industry and kindness on the part of the master, and justifies the hope of his success.

PHILLIPS SCHOOL,—*Mr. Green.*

This school is among those which appeared much better on the oral than on the written examination. Its condition is also lower, from the fact that it has been the subject of much change quite recently; but we place it among our best schools.

SMITH SCHOOL,—*Mr. Forbes.*

In regard to the Smith school, we have come to the conclusion that it is not only in an unsatisfactory, but in a deplorable condition. The attainments of the scholars are of the lowest grade; a few can read aloud from the first class reader, but cannot understand any other than the simplest passages. Their chattering about grammar shows only the power of their memories to retain the names of things which they do not understand; and their knowledge of geography is nothing but the faculty of repeating imperfectly names of states, towns, rivers, &c. There are certain parts of physical and political geography which we supposed might be made most interesting to colored children, those relating to the West India Islands, the condition of the colored race in Cuba, Jamaica, Hayti, &c.; the colonies in Africa, the condition of the natives, &c.; but the scholars of the Smith school seemed to know nothing about them. They supposed Cuba to be smaller than Massachusetts, knew little or nothing of the other islands, and though one or two had heard of the emancipation act, the class knew nothing about it. They had only the most crude and vague notions of history; and, as for mathematical geography, astronomy, or natural philosophy, the master declined any examination.

But the intellectual deficiency which prevails in this school is not its worst feature; there is a want of discipline; an indifference to verbal requests for order, which indicates the frequency of appeal to more stirring motives; a want of respectful attention, and many indefinable but clear indications of a low moral tone.

Your Committee are aware, that there are many circumstances to be considered before blame should be laid on any individual, for the present low state of the school; they are aware of the difficulties in obtaining a good average attendance, and they will not say that another individual could at once inspire the colored population with more interest in the school, could secure a more punctual attendance, or could awaken the faculties and interest the attention of the scholars. But they do believe that there is good sense enough among the parents, and intellect enough among the children, if fairly enlisted in the subject, and directed by a zealous and discreet friend, to create a school which shall reach at least to the rank *now attained* by one half of the city schools.

It is to be regretted that the present incumbent has not more faith in the desire of the colored population for the education of their children, and in the capacities of the children themselves; for we fear that, without much faith, and even some enthusiasm, no great harvest can follow the teacher's labors. We think this school calls loudly for improvement.

It will be noticed that we have spoken of *Schools;* but it may be well to remind the Board, that our duty and our examination were so far confined to the Grammar departments, that our observations must be taken as relating to them chiefly, and in some respects exclusively.

We have noticed, in some schools, a bad demeanor towards the scholars, and evidence of unrestrained and ill-regulated temper. We are aware that zeal often puts on the aspect of severity, and that this is better than the indifference which is so easily mistaken for kindness. But we regard self-command, a consistent and uniform demeanor, and a manner marked by habitual gentleness and refinement, as of the very greatest importance; and, for our girls' Schools particularly, we should demand good manners, and a gentlemanly appearance and deportment, as absolutely indispensable. We therefore regret the more the defect in these respects, which is but too apparent and too undeniable in some of the Schools. We do not give the *names* of these schools or masters, after the distinct expression of the wish of the Committee that they should be withheld.

It will be noticed, that we find in most of our Schools, a narrow and merely technical instruction. It appeals to the memory quite too exclusively. And if it leaves the text-books at all, it is only so far as is absolutely necessary for the purpose of explaining them. Assuredly this needs not to be. For instance, geography, when taught as it should and may be taught, in connection with the simple principles of climatology, and other kindred sciences, becomes one of the most important studies, even for children. They may be made to conceive the grand image of the globe, with its continents and islands, its oceans and lakes, swinging unsupported in space ; spinning round upon its axis, while it rushes forward in its orbit, and ever preserving such exact, yet changing relations to the sun, as to receive light and heat in due proportion, in all its various parts ; and working out with daily and yearly precision the changes of morning, noon, and night, summer, autumn and winter. They may see in the infinite variety of its surface, the wondrous wisdom of Him who made it for man's tenement ; the great ocean surrounding the land, and pushing forward its kindly arms into the interior to invite the nations to commerce ; the mountain ridges, connecting earth with sky, and drawing down the genial fluid, which, flowing in every direction, now leaps over the rocks and lends to man its tireless strength to do his work, now spreads out into mimic seas, and now bares its bosom to the cleaving keel as it slowly rolls through the valleys, and fertilizes the land on its way to the ocean.

Descending to particulars, the pupil should attend to the hydrography of the country and to the great subject of drainage ; he should note the boldness of the promontories, the situation, breadth and volume of the rivers, the depth of the bays, the number of the harbors, and the facilities for anchorage, and protection from storms ; the directions of the mountain ridges ; the great features of the surface and the soil ; the location of the great beds of coal, and other mineral treasures ; he should have explained to him the immense effect which these and other similar circumstances have had, and ever must have, upon the climate and fortunes of nations, and even upon the physical and mental characteristics of our race. If few of these things are in our text books, they should be in the teacher's mind, and he should direct attention to them at every recitation. But, compared with this, what do we usually find in most of our Boston Schools ? A set of dry definitions, which convey no vivid idea; a long catalogue of names of rivers, lakes, seas and oceans ; of mountains, capes and islands ; states, cities and capitals ; words, words, words ! husks without the grain!

Some of our scholars could commence with Maine, and name every river running into the ocean, without missing a navigable stream; but if you ask them why the Mississippi flows southward with sluggish current, and unvarying width, for a thousand miles, while the northern waters run in a different direction, spread out into vast expanses, rush through narrow passes and over steep precipices, to seek the ocean through the St. Lawrence,—if asked, we say, the reasons of such phenomena, they will stand in mute amazement, and their masters will perhaps complain of the unwonted severity of the examinations.

There can be no reason why children should not commence the study of geography as they do any other study, with its elements; instead of which, we place an account of the solar system before them, on the first page; and begin to teach the geography of their own country by saying that America is 9000 miles long, before they know the dimensions of their own city, or indeed how much a mile is. Another striking point in our mode of teaching geography, is the vague and imperfect idea which our children form of the relative positions of different countries upon the globe. They are told indeed that the earth is a sphere, and occasionally they use a small globe, and perhaps solve a few problems upon it. This however is but rarely, while every day they study their maps, and have before their eyes a flat surface. Their first thought of China, for instance, is that of an extended portion of the earth's plain, lying far away to the east of us, and not as on the other side of the globe. Hence it is that our scholars almost invariably gave the wrong answer when they were asked ;—Which is the longer, a degree of latitude, or a degree of longitude measured elsewhere than upon the equator.

It is in vain that the masters may protest against this, and insist upon it now, as they did insist upon it at the examinations, that their scholars must know, for they have had it explained to them. We doubt not it may have been explained, and well explained ; but what is one, or five theoretical explanations of the spheroidity of the earth, compared to the daily and hourly evidence of their maps. The best practical teaching of the fact would be to lead a class to a neighboring height, on some pleasant afternoon, after School, and to point out to them the sails of a ship as they appear above the horizon before its hull ; —but how many classes of Boston boys have been so taught ? Another, and a most glaring fault, is the ignorance of our children respecting the relative extent of different countries. Your Committee have very often been told, in the oral examination, that Ireland is longer than Madagascar ; some classes have patriotically maintained the superiority in size of Nantucket over Jamaica, and stoutly asserted that Massachusetts is larger than Cuba, and this in schools where geography had been studied faithfully in the usual way.

The masters may protest against the supposition, that their scholars do not know that maps are projected upon different scales, and do not make allowance in judging of the comparative sizes of countries ; they may say, as they have said to the Committee, we have explained this matter, and the scholars really understand it. We do not doubt that they think so ; nor do we doubt that the masters can conduct an examination, and ask many questions that the Committee asked, and obtain correct answers where we obtained incorrect or vague ones ; but the examination will be in this wise : " Boys, which map is projected upon the larger scale,—that of the British isles, or that of Asia?" and the correct answer will be shouted by all the class. "Which is the longer—Ireland or Madagascar ?"—and quick as a report after a flash will come the response,—" Madagascar." " Why do you think so ?"—says the master : " Because it is upon a smaller scale,"—shout the boys, with a readiness that impresses the spectator with an idea of their intimate acquaintance with geography. But let this lesson get cool, and let the boy some time after read in a newspaper some mention of Madagascar and of Ireland, and he will involuntarily picture to himself Ireland as larger, if not longer than Madagascar ; and Massachusetts as larger than St. Domingo, because, he has had the two before his eyes a thousand times, and has always seen the smaller one forming the larger picture.

It is difficult, with our present system of teaching, to obviate these errors, which seem less the fault of the masters than of the mode pursued ; but they can be obviated by a very simple method, and that is by having in every school, and constantly before the eyes of the pupils, a globe so large, that all the principal countries and islands may be clearly represented, and so highly colored as to be seen distinctly from any part of the room. This should be the constant standard of reference ; it should be looked at during every lesson ; and it would gradually stamp upon the minds of the scholars such a vivid, lively image of the spheroidity of the earth, of the relative positions and sizes of continents, of oceans and of seas, as would never be effaced. We hesitate not to say that it is impossible to teach even physical geography well without a globe ; nevertheless, we have the avowal of many of our masters, that they never use one unless for mathematical geography or for astronomy.

It is true, the globes which are provided for our Schools are very small, and very imperfect ; and we would most earnestly recommend to the Committee to procure for each School a globe of at least four feet in diameter, on which shall be represented, *in relief*, if possible, an outline of all the great natural and civil divisions of the earth. An order for a number of these globes would be executed in Germany, or in France, where such beautiful *relievo* maps are made, at an expense which is unworthy of consideration compared with the immense benefit to be derived from them.

We would also recommend the use of blank globes, upon which the pupils can draw with crayons the great circles, the parallels and meridians, and the outline of countries. We have alluded to the advantages of drawing maps, and we may observe here, that all these advantages would be realized by drawing upon a globe,—as far at least as representing large sections of countries

Near them, upon the walls of the school-room, should be large outline maps, with the different countries all represented upon the same scale; and there should be a constant practice of sketching countries upon the black-board, and frequent exercises in map-drawing.

With these additional aids for the master, and additional exercises for the scholar, our children would not be perplexed, as their parents often are, to know the dimensions of different countries, with their bearings from each other. They would not be perplexed by being asked whether New Holland is smaller than the United States or larger; or whether it may be sooner reached by a line drawn southeast from Boston, or by one drawn southwest.

The examinations in grammar, like those in geography, have discovered, that there is in the Schools generally too strict an adherence to the rules in the text-books, without a sufficient acquaintance with the principles of language. The great object of grammar is to enable the scholar to speak and write with correctness and propriety.

It includes a knowledge of the formation of words from their elementary parts—the mode in which one word is derived from another, as well as a clear and distinct idea of each and every word, according to the usage of the best authorities. It embraces also a knowledge of the classification, arrangement, agreement, government and mutual dependence of words when joined in construction.

To attain this object, the pupils must be able not only to give the true relation of each word in a sentence, but must be able to supply ellipses, rectify false constructions, and in a word, to analyze the sentence into its clauses, adjuncts and phrases, and show their mutual relations and dependencies.

To accomplish this object, the method pursued in most of the Schools, is, to drill into the memory of the pupil all the definitions and rules of the text-book, before he has learned their power and application, and then set him to parsing. Thus the memory is burthened with unintelligible rules, and the mind fettered with a cumbrous machinery, which the annoyed and tasked scholar knows not how to employ.

There is another method adopted in some of the Schools, which is more reasonable and better adapted to the end proposed; and that is, to teach the pupil to construct his own sentences, and to learn the use of words and the meaning of definitions and the applications of rules, during the process of construction. Suppose him entirely unacquainted with grammar. Let him first learn the definition of a noun. Let him then be required to give examples of nouns. These may be written upon the board. Let him next learn the definition of a verb, and be required to attach a verb to any of the nouns written upon the board, as, "the bird flies." He has now made a sentence in its simplest form. Let him next learn the definition of an adjective, and learn its use and application at once, by attaching some appropriate adjective to each noun upon the board. Let the teachers question him as to its influence on the noun, until he can readily form a sentence containing an adjective, a noun and a verb. He may next learn the definition of an adverb and be required to attach some adverb expressive of *time*, *place*, *circumstance* or *manner*, to each of the verbs on the board.

In the same manner let him, as he commits to memory the definitions of gender, number, case, mood, tense, &c., learn at the same time to apply them to examples written by himself or the teacher. The next step is to teach the pupil to attach an object to a verb, and thus learn the distinction between the objective and nominative cases, transitive and intransitive verbs.

Let him then, after learning the definition of a preposition, attach to the verb or noun, a preposition and its object, thus "the bird flies through the air," and then explain the relation of the whole phrase "*through the air*" to the verb. The next step is to construct compound sentences, and make the proper distinction between the principal and dependent clauses with their connectives.

In this way the pupil's memory is not cumbered with a variety of rules and definitions, while he is unacquainted with their use and application.

The scholar may now take sentences already formed, and learn to analyze them into their various parts. Then, by uniting the two processes of constructing and analyzing, the pupil, under the guidance of a skilful teacher, will necessarily, and with pleasure to himself, become acquainted with the principles of grammar.

This process requires on the part of the teacher and pupil, labor and patience and perseverance; but it has this recommendation, that the mind is exercised, and every step taken is an advance toward the accomplishment of the object.

Of all the branches taught in our Schools, reading seems to receive the greatest attention on the part of the masters. The ttainments of the pupils in this branch are incomparably higher than in any other. Your Committee apprehend, indeed, that in some Schools too high value is attached to it, and that time and labor are spent upon it to the neglect of other studies.

The art of reading well is a beautiful and important one; but it must not be forgotten that it is a means to an end, and not the great end itself. The first object in teaching reading should be, to make the scholar so familiar with the arbitrary visible signs of things and ideas, that a single glance at a sentence shall make him acquainted with its full meaning; he must be able to dispense with the aid which is necessary to those unfamiliar with the signs, of moving his lips, or *saying to himself* the words he looks upon. The second object should be, to enable the learner to enunciate those signs correctly, distinctly and euphoniously, —in short, to read aloud. Now it is very easy to learn the first part of the art without learning the second, as is illustrated in the common remark that one can read French, but cannot speak or pronounce it; but it is very hard, if it be not impossible, to attain the second part without the first—to pronounce the signs, without understanding their meaning; yet some of our Boston masters, by their art and perseverance, and by the extraordinary powers of imitation and memory in their pupils, do approach success even in this, which is somewhat like being able to pronounce correctly an unknown tongue.

Your Committee have sometimes been amazed to find that pupils could read, with tolerable emphasis, tone and feeling, whole stanzas, of which they did not understand the metaphors, the leading ideas, or the principal words.

Much as has been said by former Committees, much as has been written in every treatise on education, about the importance of teaching scholars the meaning of every word they read, we believe the lesson has not been learned by all our masters, much less by their pupils; and we fear it never will be learned while the present inefficient and imperfect mode of superintendence and examination is continued.

The first and great object, then, of learning to read,—an understanding of the language,—is often sacrificed to the second,—euphonious enunciation of sound; and for this there is great temptation held out to the masters and great inducements to the scholars. Every casual visitor of a School must hear a reading lesson, but only a few venture to question the readers; every Committee must hear the class read, whether they have time to examine in grammar or not.

Your Committee would by no means undervalue the importance of the elocutionary part of reading. They would not have the masters overvalue it, as some do, but surely not all, judging from the careless and slipshod reading of their classes. There is the greatest possible difference in this respect in our Schools; a difference that could hardly exist under good supervision.

We should venture to offer some remarks upon the other branches of study pursued in our Schools, if we had space for them. If it is thought that we insist too strongly that the children should *understand* what they study, and if it is said that this cannot be perfectly accomplished, we answer, that we do not demand the impossible. But much more is done in this way in some Schools than in others; more should be done in all; and those who have not had some opportunity of witnessing *actual results*, would be surprised at the degree to which the understanding of children may be developed, and the facility with which they may be made to comprehend the facts and rules they learn, by vigilant, skilful and persevering efforts.

Upon the whole, the Committee have, reluctantly, come to the conclusion that the Grammar Schools of Boston have not the excellence and usefulness they should possess. Our citizens manifest their strong desire, that their children should have the best possible education, by a very liberal expenditure for this purpose; and it is certain that their children have not this education. We cannot but believe, for we see, that other Schools are better than most of ours; and that the majority of our Schools are further below the best that we have, than any thing in the peculiar condition of the scholars, or other similar causes can explain. And your Committee do not think they should discharge their duty, if they did not suggest some, at least, of the causes which seem to them to operate unfavorably upon our Schools.

The first of these causes may be found in the constitution of the School Committee. Numerous, chosen without concert, in many different parts of the city, offering to those of its members who cannot turn it to their pecuniary benefit, no motive but the mere love of usefulness to induce them to remain long in office, it is, necessarily, an uncertain, fluctuating and inexperienced body. The duties which its members ought to discharge, are burdensome, and would require great labor, and occupy a large portion of our time. The duties which we do perform, though quite as much as can be expected or ought to be asked of men who give to these duties only their leisure, and give it without compensation, are but a very small part of those which lie upon us.

Nor is it possible for us to perform even these as they should be performed. The Schools are divided among Sub-Committees. Each Sub-Committee consisting of three members, the whole number for the nineteen Grammar Schools, is fifty-seven. And as only twenty-four members serve on the Sub-Committees, it is obvious that each member must serve on two Schools, and nine must serve on three. The Sub-Committees are required to visit each School, at least once a quarter. We do full justice to their actual labors, when we assume that this rule is complied with, that the required visit occupies a whole day, which is employed in a careful examination of a School of 400 or 500 children. Now, not to dwell at present upon the necessary insufficiency of so brief an examination, we would ask attention to one inevitable result from this practice. It is, that all the Schools are not examined by any Sub-Committee, as each member confines himself to his own two, or at most three Schools. Of the annual examination, we will speak presently. That which is made by the regular Sub-Committees, never, by any possibility, subjects all the Schools to the same standard. It never ascertains their comparative merits. It provides no means by which improvements that are of great service in one School, may be adopted in another ; none by which the example of one School may be made profitable to another ; and the greatest and most unnecessary difference may remain for years, in Schools almost in sight of each other. In fact, no one man, and no Sub-Committee, is ever required or expected to know the actual condition of all the Grammar Schools in Boston.

It may be said that the Annual Examining Committees do this. We know something of the toils which those Committees must undergo, if they discharge any tolerable part of their most important duties. We know what we have done ourselves, and at what expense of time and labor. We have inquired diligently into the doings of our predecessors, and examined the records they have left. And we say quite enough when we assert, that the labor of a faithful Sub-Committee has very seldom exceeded a full day to each School, spent in its careful examination. This seems to be the most ever asked or expected. Now, let us compare what is to be done, and the time in which it is to be done. There are two Committees, of three each ; one to examine the Writing department, and one for the Grammar department. These Committees are to ascertain the whole condition of the School, and all the particulars which make up this whole,—the proficiency of the scholars in each department ; the methods of instruction in each branch of study ; the discipline and motive-powers relied upon ; the character, demeanor and abilities of the masters, ushers and assistants, and this so well as to judge whether their defects or errors are curable, and if so, by what suggestions or advice most effectually ; the state of the schoolroom, its furniture and apparatus ;—all this and more, in *one* day, or, if the two Committees act in concert, and divide their labors between them, in *two* days. It is obviously impossible. Indeed, by a regulation of the School Committee, the Annual Examining Committee now confine their attention to the *first class* in each School. This regulation was found to be decessary, because, if the Examining Committees attempted to no more, they did nothing ; but its effect has been to confine the labors of many masters, quite too much to the first class.

These examiners are, by a long usage, new men every year, which makes any thing like systematic and continuous observation out of the question ; and the Reports of successive years show a discrepancy which we cannot otherwise explain.

Indeed, if any more proof is wanted of the utter inefficiency of the old mode of examination, we hope they who ask it, will look for it in a comparison of the Reports of the Annual Visiting Committees for different years. One Committee will infer from an examination that a particular School is wanting in discipline, and its scholars deficient in a knowledge of geography, while they rank high in the other branches ; another year, another Committee report the order good, and the attainments in geography high, while in all the other studies the scholars are very deficient. Such discrepancies occur, for instance, between the successive reports of the Rev. Mr. Hague, and Mr. Hillard; and we mention these names, because these gentlemen are so well known in this community, that we may safely say, it is impossible for the School Committee to have their work done by better men.

The Reports are often at entire variance with each other, as would naturally be expected where men of different tastes, different capacities for examining Schools, or in different frames of mind, examine the same School under different circumstances. Sometimes the mere state of the weather may have an effect, both upon the class and upon the Committeeman ; a close and sultry afternoon, in midsummer, may render an examination tedious and unsatisfactory, which, in the clear, bracing air of morning would have been lively and satisfactory to both parties.

Our citizens seem to have built up an extensive establishment of Schools, to tax themselves annually for their support to the amount of more than two hundred thousand dollars, and then to leave them without any thing like adequate or appropriate supervision. What other great interest of the city is so uncared for ? What other great expenditure so unwatched ? It is, we repeat, impossible that the present School Committee should perform this work of supervision. But while it constitutes, as in fact it does, the Board of Education for the City, and is therefore, supposed to do this work, it protects and perpetuates defects, by preventing that personal examination by parents, which might, in some degree at least, be given, if it were supposed to be needed ;—thus verifying the saying of Jeremy Bentham, in his argument in favor of individual responsibility, that a " Board" is but too apt to become a " Screen."

How, then, would we remedy this ? Not by a change in the

School Committee itself; for the constitution of this Board, for some purposes, is admirable. Its members come fresh from the people, every year; and being chosen from all the Wards, they represent all the wants and interests which should be provided for, and all the opinions and feelings which should be consulted. The excellent elements for a Board of Education which we now possess, we would retain,—adding those which are wholly wanting; and these are, permanence, personal responsibility, continued and systematic labor. This we would do, by adding to the officers of the city, one whose duty it should be to watch over the Schools; to know the exact condition of every one, in all particulars; to bring the lagging forward; to suffer no defects to become prescriptive, no abuses to be indurated by time; to acquire and to impart such information as shall bring all our Schools to that degree of excellence which our citizens not only have a right to demand, but without which they have no right, in justice to themselves and to their children, to be satisfied. This should be his business,—his whole business; and he should be adequately paid. Although chosen annually, like our masters, his tenure of office, like theirs, would be permanent, if he discharged the duties of his office acceptably; and if he did not, another should be chosen in his stead. We think also that he should be chosen by the City Council, and be amenable in part to that body and in part to the School Committee, under a system of duties which can easily be arranged, when it shall be time to go into these details.

It is easy to bring a certain class of objections against this measure. Many interests will be assailed and endangered by it, and therefore much influence will be exerted against it. The numerous objections which lie against all new propositions will of course be worked as hard as they will bear. Thus,—it will be liable to abuse,—as if there were any thing on earth that is not. It will add to our expenses; but it can be shown that the cost of such an officer can be saved many times over by the good he may do, and by the actual expenditure he may save. We are unwilling to enter into details on this subject, for they would carry us much too far. But there is one thing we would suggest. The cost of books lays now a heavy burthen upon many parents. A competent School Commissioner might have charge of a Book Depository. Contracts could easily be made, by which the books would be cheaper than they are, and they could be sold to scholars at their cost, or with only the slight addition necessary to pay the rent of a cheap room and the wages of a clerk. The Commissioner would also see that they were so manufactured as not to come to pieces quite so soon as at present; and a boy, who had taken care of his book, might, when he had done with it, leave it at the Depository, and receive the half price paid by some scholar obliged to study economy. By these means alone, the Commissioner would save more than his salary, and he would save this money for those upon whom an unnecessary expense presses most heavily. But, it will be said, there may be favoritism, and management in the choice of masters to answer a particular purpose, and in the introduction of books to help somebody's pocket, and so forth and so forth. The answer is,—*there may be all this now.* In the one case we have a Board of twenty-four men, not paid for any labor, who share a responsibility, which, thus broken into fragments, presses on no one; and who must, on the common principles of human nature, be supposed to be made willing to hold this office by every variety of motive, from the highest and purest love of usefulness, down to a mere personal purpose of coining its privileges and opportunities into dollars and cents. In the proposed case, we have *one man*, paid, under contract, before the eyes of the public, regularly reporting every thing that he does under his own name, and liable to lose his livelihood if he goes wrong. The question is,—and in fact it is the only question,—under which system are abuses least likely to creep in, and most likely to be detected and removed, when they have found an entrance? The experience of other great cities may help us to answer this question. In our peculiar organization we stand alone, and the important functions resting elsewhere upon a School Commissioner are by us very imperfectly provided for. It may be added, that such an officer might supply a link between the School Committee and the City Government, which is now wanting. For some purposes, the official Presidency of the Mayor would seem to form this connection, but in reality it does not. That officer is burdened with duties of very great amount and very great variety; and he can only go from one to another, dividing his time and attention among them all.

Another defect in our schools, which operates upon them injuriously, is that which gives to each school two heads. There are in each*, one called a grammar master, who teaches grammar and certain other branches, and one called a writing master, who teaches writing and also some other branches. These two masters are both masters, and equal masters, with equal pay, no difference in rank or authority, neither having exclusive control or responsibility. It is certainly proper for those who respect the common sense of mankind, and the common usages of all time, to say that a system which is so distinctly opposed to both, is, upon the face of it, objectionable, and ought not to be retained, unless strong arguments, arising out of peculiar circumstances, justify it as an exceptional and peculiar arrangement. But there are no peculiar circumstances, and we know of no strong argument. This subject has been frequently and earnestly debated in the School Committee in times past; and perhaps most of the views of it which can be presented have been considered and discussed. We do not deny,—for it is certain and obvious,—that there must have been powerful motives, or interests, or influences, of some kind, which could have caused the adoption and continuance of so strange an arrangement; and they might have taken the appearance of strong reasons, or have given that appearance to weak ones. Of these we have nothing to say; and of the arguments in its favor, we can only remark, that we are wholly unable to perceive their force. Indeed, the only one which we have heard, of any weight, is this:—the departments of writing and arithmetic being very important, require that we should secure the most competent instructors, and we can do this only by giving to such instructors the same pay, and the same rank, and the same power, that we give to the grammar masters. Now, to say nothing of the contradiction of this argument by the notorious fact, that inferior men are very often chosen to this office, the argument itself is, in our estimation, very feeble. That writing and arithmetic should be taught just as well as they can be taught, we hold; and we hold this principle just as firmly as it can be held by any person. But we cannot see why either writing or arithmetic can be taught any better because the person who teaches them has just the same power, and just the same compensation, that another person has who teaches something else. Boston is not the only place in which the value of writing and arithmetic has been discovered; it is not the only place where these things are well taught; and we cannot see why it should be the only place where an opinion should prevail, that they cannot be well taught unless every school has two heads.* They should be well taught, and for that purpose we should give the instructors money enough, and authority enough, to secure competent persons, and enable them to do their work; and having done this, whatever we do more, is without reason and against reason. If it be true, as only the School Committee of Boston ever supposed, that writing and arithmetic cannot be taught unless the teacher is head of the school, then let him be *the* head,—but not one of two heads. For if it be contended that there is a precise, mathematically exact equality between the branches which are taught by one of our masters and those taught by the other, that the equilibrium cannot be disturbed without violence, and that neither master can be the responsible head of the School without detriment and injustice,—we have only to say, it may be so, it may have been reserved for the School Committee of Boston to make and to apply this most singular discovery ; but we are rather of opinion, that this wonderful equality is more apparent than real, and seems to exist only because the balance which weighs this matter does not turn quite so freely as might be desired.

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*There are two exceptions; the Smith school for colored children, and the school at East Boston. The new South school is not yet fully organized.

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*A similar double-headed system was adopted in Salem for a time, but is now abandoned.

But the positive and practical objections to this arrangement are very great. In the first place, *two* masters are *no* master ; and it is strictly true, that there is *no* master in our grammar schools. No master, who has the authority, who lies under the responsibility, who can perform the duties, and sustain the relations, and effect all the good results, which belong to the office of a schoolmaster. We hold this office in high respect; for we would respect every man in his own position, and in the discharge of his duties ; and respect that position according to the value of those duties. And judging by this standard, who is entitled to more respect, to a more affectionate regard by the whole community, than the faithful and useful schoolmaster ? But not merely because he teaches, from books or otherwise, certain branches of knowledge. This is the smallest thing he does, if he does all that he should, all that he may do. When Providence in its mercy gives us children, we receive from its hands these germs of human life, and with them the solemn duty of watching over them, of training them in their growth, and so preparing them in the morning of their lives for the hours of noonday toil, that the various uses and employments of life may be discharged by the men and women who are to follow us, in such wise as to promote their own good, and the good of mankind. We feel the burden of this task, and we call upon the schoolmaster to aid us ; we tell him to stand in the place of the parent ; we put in his hands a large part of our authority ; we lay upon his shoulders a heavy portion of our own responsibility. Whoso enters our schoolrooms, and is able to see there only feebleness and imperfection, and the day of small things, forgets, or is incapable of knowing, that, in the immature and slight-seeming Present before him, there lies an infinite Future. There are the men and women of a time that is near at hand ; there is the nation of the coming age. Within those walls are a large part,—no man can say how large,—of the influences that are to set their seal upon that nation, to form its character and determine its destiny. There is the beginning of Education. And the end of it is not when as men and women they take their places in society ; but afar off, in the distance of Eternity, these never-ending influences go on ; and every step of their eternal progress is colored and qualified by this beginning.

It is in this respect, that the personal relations between the master and the child are of the utmost importance. If the child learns that he has a master, who is to be obeyed, whose every rule and every act are for his good; if he finds there kindness, firmness and *consistency*, if he knows that the experience of to-day will help him to-morrow, because he is under no changeful domination; if he gradually,—always with some difficulty and after some conflicts,—learns to understand and acquiesce in the rule under which he lives, and to rejoice in it because it is kind, and well adapted to bring out and cultivate the good that is in him and make him happy, while its firmness and stability give him the feeling of security, and if habits of order, of intelligent self-government, of obedience in freedom, thus grow up in him, —then he is acquiring, what will be more useful in the coming ages, and after all coming ages, than all that was ever put between the covers of a book, even if he were able to put all that in his memory.

But how is it possible that relations like these should exist, in any good degree, where there is in fact *no* master? where the child is to-day under one government, and to-morrow under another, or rather passing from one to the other every half day; where the idea of unity has given way to that of diversity; and where, instead of unvarying consistency, there is only constant change? The two who are called masters must both feel this. Both may be good, and experienced, and intelligent; but if they are both men, each must be himself; each must have his own way of thinking, and feeling, and acting, and governing, if he have character enough to be fit for his place; and it is as impossible that the ways of the two should be one, as it is that two men should stand in one place. Both must feel this difficulty; and they must feel it as an insurmountable obstacle to the establishment of proper relations between themselves and the children under their joint care. And if the longing desire for that which every good schoolmaster must feel to be the greatest good of the school, should induce either of them to strive for this great end, the obvious impossibility of reaching it will come home to him every day, and compel him to desist. The School will quietly fall down to a low level, and there things will rest.

This must happen but too often, even if we suppose the most favorable case possible, and that is, the union in one School of two good masters, both desirous of acting upon their scholars by the highest motive-powers; but let us suppose what is far more likely to happen, what actually does happen,—the union of two masters of opposite characters, opposite views and opposite modes of government. In the morning, the grammar master comes in among his scholars, and commands their respect by those peculiar appearances which high moral worth, united with intellectual power, ever stamp upon the outer man. He wins their confidence and affection by his paternal solicitude, and his genial smile ; he fixes their attention by presenting each subject of study in a new and interesting light ; and he gradually fills the School with an atmosphere of love, which begins to subduethe most turbulent and refractory spirits. The children go away almost with a feeling of regret, and assemble again in the afternoon with hearts half softened towards authority ; but what a change is there ! The master is one who has mistaken his vocation ; he may try to look as a master ought, but he cannot ; the animal nature predominates in his composition, and he cannot suppress its natural language. It flashes from his eye, it speaks in every motion, and inspires distrust and dislike ; he opens his mouth, and his harsh voice grates upon the ear, confirming the first impression ; his directions assume, (involuntarily, perhaps,) the tone of command which will evidently be enforced by the physical power at hand. Human nature revolts at this, and thenceforward the boys are insensibly but certainly arrayed against the master ; the beautiful harmony between the ingredients of the moral atmosphere of that School is broken by the invasion of base fear, and thenceforward discord reigns. The master becomes discontented and fretful ; the boys become distrustful and hypocritical.

Now it is easy to see how the unwise conduct of the one master may counteract the kindly influence of the other, and, perhaps, drive him from his chosen system ; but who can tell the effects which dwelling three hours every day in an atmosphere of fear, of hypocrisy and of eye-service, may have upon the tender minds of boys. We can calculate the effects upon the body, of an undue proportion of carbonic acid gas in the air ; but who will tell the effects upon the character, of a vitiated moral atmosphere ?

It is a fact of some significance in this connection, that the masters, as the Schools are now organized, do not really have much to do with either the instruction or the discipline of the lower classes, and in most cases positively nothing to do with their moral training. Our Schools are not only double-headed, but they are triple-headed,—if not quadruple-headed. Each of the masters is nominally the responsible head of his own department ; but he confines his attention almost entirely to the upper class, and leaves his usher and his assistants to manage the lower as they can.

In some Schools, the masters, in reply to the printed questions of the Committee, say they have but sixty under their personal care ; and it is a fact, beyond all question, that some of them do nothing, and know nothing about the instruction of the lower classes.

All nations, in all ages, have seen the great principle more or less clearly, that, in every School, there must be an acknowledged and responsible head. Hence, always and everywhere, under every form of government and every kind of civilization, the School has been a place where authority, discipline and order were to be found ; and that kind of order which implies of necessity unity and consistency of government, and can exist only where there is one master. The name *Master*, or one of exactly equivalent meaning, has been given to this office in all languages. We believe that this unity of government in Schools has been almost a universal fact,* and is so at this moment, with the exception of our own City. The School Committee of Boston must have supposed that all states and nations, and all past ages were in an error, which they alone had discovered and corrected. This is certainly possible ; but it does not seem to us probable. On this question the School Committee may have been wiser than the whole world and the whole past, but we think not ; and when the time shall come,—and it cannot be long delayed,—for us to adopt a system better conforming to universal usage, to common sense and obvious right, we have little doubt that experience will satisfy us or our successors, that we have changed for the better.

Indeed, the result of our long and minute examination of our own Schools, and those of other towns and states ; the result of deep reflection and sober thought, is, that the School system of our own City, is wrong in the principle of its organization, inefficient in its operation, and productive of little good, in comparison with its very great expense.

Holding honestly this opinion, and believing that no half way measures, no temporizing policy, nothing short of radical reform will cure these evils, and enable the children of the City to receive a proportionate benefit from the large sums which the fathers of the City annually invest for them, we feel bound to suggest a plan so extensive in its nature and thorough in its operation, that we should have shrunk from the bare contemplation of it, three months ago, as many to whom it is addressed, for the first time, will now shrink.

Most of the School Committee, and most of our fellow-citizens, have been so long accustomed to the present organization of our Schools, that its extraordinary character does not, perhaps, strike them. Perhaps few have examined this organization, in comparison with that of other Schools of high standing. Let us look at it, therefore, as though it were not our own. Take one of our boys' Schools, for instance : here are 500 children, from seven up to fourteen or fifteen years of age, who are to be taught reading, writing, grammar, arithmetic, geography, &c. How do we divide them, and organize the School? We divide them by a perpendicular line, into two classes,—not according to age, not according to acquirement, but according to the principle of making two separate and independent Schools, of equal age and acquirement, with two independent masters, each having equal jurisdiction;—one being master of one half all the morning, the other of the other half; and then exchanging in the afternoon. Thus in sixteen Schools we have thirty-two independent rulers, each on a salary of $1500, and sixteen vicegerents, or ushers, each upon a salary of $600.

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* The neighboring town of Charlestown furnishes the only other instance within our knowledge of strictly double-headed Schools.

We have alluded, elsewhere, to some of the evils of this arrangement; many others may be seen by a close examination of the workings of our Schools, of which the only ostensible benefit is, that it affords comfortable places and salaries for persons otherwise, perhaps, out of employment.

Now suppose, instead of this, that we should divide the scholars horizontally, or according to their age and acquirements,—placing the older or more advanced half in the upper room, and the other half in the lower room; the whole to be under the general care and superintendence of a head master, whose immediate sphere of duty, however, should be in the upper room, in the care and instruction of the older children. The lower room, with the younger children, should be under the care and instruction of a female teacher and her assistants; for all reason, and modern experience, show us that women are, by nature, better fitted than men to teach and train young children.

As it will be necessary to have a head master of the highest character and acquirements, and as his responsibilities, both in and out of the School would be greater than at present, the actual salary might be increased.

In order to secure the most capable and accomplished women for teachers in the junior department, it would be necessary to pay at least $400 per annum; and thus we might keep at home those superior teachers who now go to the South and West to get higher salaries than they can get here.

By this simple and feasible plan we should obtain higher kinds of services and have better schools; while by substituting one lady for one master, and even *two* female assistants for one usher, we should save the salaries of sixteen masters at $1,500, and of sixteen ushers at $600, being thirty-two persons, to whom we now pay $33,600, and have in their place forty-eight competent female teachers, to whom we should pay only $14,400, thus making a clear saving of $19,200 per annum in the item of salaries, excepting only what might be allowed by way of increase of the masters' salaries.

Will any one venture the assertion that we cannot find women of energy enough to take care of and teach a school of boys under twelve years of age, with a head master in the same building, to be called upon in any emergency, in the face of the fact that all over the civilized world, such things are done ? Or in face of the fact that at this moment, in our Boston Schools, hundreds of boys are so managed ; for we have said the head master usually leaves the management and care of the younger boys to his female assistants, and often knows not and cares not what she does with them.

Will any one venture the assertion that a grammar master cannot teach writing and arithmetic as well as the other branches, in face of the fact that all over this country, and in Europe, it is done ? Or can this be said, in face of the specimens in writing, taken from the Dudley School in Roxbury, which are so decidedly superior to those of our own schools ? Yet they are from a school taught by one master, and at much less expense than ours.

It may be said that this plan has been tried before in the Boston Schools and failed ; but the fact is not so, and even if it had been so, we trust that good influences would now be brought to support the plan, and sinister influences would be counteracted, so as to prevent its failure. The former feeble attempt at reform was made when great comparative ignorance and indifference about Public Schools pervaded the community, and when interested individuals exerted an influence which might now be palsied by a newly awakened public interest.

But the old attempt was not what is now proposed. That lowered the writing masters from their rank, and made of them mere subordinates, at a small salary ; and it thus introduced into the Schools themselves an element of destruction. To expect schools to succeed in such hands was to expect a miracle. That attempt failed mainly because a sense of duty to the public did not stifle the appeals for sympathy from a few individuals ; and because war was waged upon it by those who availed themselves of the ignorance and indifference of the public upon the subject, to work its destruction.

There was a great clamor raised then, and there would be a great clamor raised now, should the Committee entertain the present proposal, although it be simpler, more efficacious and more economical, for it is not possible to discontinue so many offices, even though they be supernumerary, without being disturbed by the protestations of thirty-two incumbents and their connections to the third and fourth generation, and their circles of friends.

If such a simple and demonstrable plan of saving fifteen or twenty thousand dollars annually, and yet having better schools, was ever defeated, we trust this could not be now done, in the face of accumulated knowledge and reviving interest in the community.

Your Committee have considered, not this plan only, but some others which have been from time to time suggested. But they present this only, because, after the fullest examination and deliberation, they are convinced that it is the best.

The attention of the School Committee and of the public, has been directed of late to the subject of corporal punishment. There has been a strong desire to diminish this in amount, and put it under such regulations as may leave its usefulness unimpaired, and lessen its mischiefs. This is well; but there is always danger in any thing which partakes of the nature of reaction. It is easy to feel, and to excite, a morbid and mischievous sensibility on the subject of punishment. We are delighted with the beautiful instances of individual scholars, or of some excellent Schools, where moral motives are all that are used, and all that are needed. But we must not forget, that upon this as on all other practical subjects, the wise man aims at what is possible, and does not lose the good upon which he may lay his hand, in a vain effort after that which is unattainable. Nor must we forget, that if our Schools are to be places where human beings shall be taught and trained, there must be discipline, restraint, and positive authority. He who hopes for an escape from this necessity, knows nothing of human nature. He has not learned the most universal law of human life, who does not know that every man, from his cradle to his grave, errs and sins, and suffers the punishments by which Providence would restrain, instruct and reform him. It is thus the man learns, and so must the child learn to become a man. Doubtless moral motives are infinitely higher than merely sensual motives; and for that very reason they are less adapted for some masters to use, and some scholars to feel. Nor is the effort to substitute the one for the other without its danger. A blow with a ferule may give less pain, and do a far less permanent injury, than an exposure to disgrace, or an appeal to self-esteem and the love of approbation; for these may crush one kind of temper, and excite in another and make habitual, feelings that will render it selfish, useless and miserable. It is still true, however, that moral motives are far higher than those appealed to through the sense of bodily pain; and it may well be the earnest endeavor of the Committee and of the schoolmasters, to bring down corporal punishment to its minimum, and enlarge as far as may be the domain of moral discipline. But if all perceive the propriety of doing this, and all aim to do this, their success will be very different. Experience shows that there are masters who *know how* to dispense with the rod, and others who do not; and that those who possess this knowledge are generally, in other respects, most successful as teachers.

We are forced to believe that there has been a gross abuse of the power of corporal punishment; but in consequence of the late order of the Committee, and of the direction of public attention to this subject, the abuse is much diminished. There is little danger of its revival, nor is there, in the actual condition of our Schools in this respect, any thing to call for or justify alarm or excitement. There is room for improvement; but that improvement can only be effected by temperate and just opinions, deliberately formed, resting upon a clear understanding of facts and possibilities, and contented to advance slowly, or what may seem slowly to the enthusiastic. Undoubtedly there are some persons who look upon the rod as if it had a magic power; as if chaos must come again, if it were abandoned and forgotten. They quote the saying of Solomon, as if it contained all his wisdom, and regard the rod as if it must ever be the chief instrument of education. Possibly there may be some persons in our own Schools whose minds are inclined too much in this direction; but the regulations of the Committee, and the power of public opinion, will, we hope, break the force of the blows, and save the little victims from outrage. If we have such persons among our masters, we would not turn them away, if they are good men, and good masters in other respects, and are restrained by any means or motives from doing too much "execution" in their Schools. At least, we would not send them away, until we have given them the fullest opportunity for reform and improvement. We would let them stay, and hope they would become wiser; nor would we content ourselves with merely hoping, for we would try to help them.

We have spoken of this subject, not only because it happens just now to receive much attention, but because it is itself of the utmost importance. And while we do not propose, nor deem it our duty, to go into a full consideration of this interesting topic under all its aspects, we ask permission to state one other view of it, which has much weight with us. It is that which regards corporal punishment, as peculiarly unsuited to our own Schools, and to a system of education for this country. In Prussia, for example, where it is, however, almost disused, if the child, from its cradle, were taught to obey and to be good, only by the constant terror of immediate corporal punishment, the habits of mind and of character which would be formed in this way, would be well suited to the influences and circumstances that would surround him when he went forth to the duties and employments of adult life. There, too, he finds a master over him, and a master who holds a heavy rod in a hand always uplifted. He is still subjected to laws, which he did not help to make, which he need not reason about, to which he must yield a blind and unreflecting obedience, because they have the power to compel this obedience by prompt and certain punishment.

In this country, when the boy escapes from school, he never hears the word *Master* again. He is free; free for good or for evil. He sends his neighbor, or goes himself, to make all the laws which bind him; and if he does not like them, it is right for him to say so, and to use proper means to effect their change or repeal. Unless he sinks down to absolute crime, he scarcely comes in contact with penal law, or knows what legal restraint means. Nine tenths of the lives of nine tenths of our citizens are passed with no sense whatever of coercion or compulsion, beyond that which may come from social usages, or their own sense of interest or right. And what must be the condition of him who comes into such a life as this, with no habit and no idea of self-government, beyond that which he could derive from corporal punishment? The great end of the education of a child, is to fit him to become a man; and so far as this end is concerned, *his* education has utterly failed. He must begin now, when the impressible years of childhood are passed, to learn all that is most necessary for him to know; and under what influences, what temptations! A man who knew that his child was destined to an occupation, in which he could earn his bread only by the use of his right hand; if, during his whole childhood, he bound that hand to his body, and permitted every other limb to grow and strengthen, would act wisely in comparison with the parent or schoolmaster who seeks to prepare a child to become an American citizen, by no better discipline than that of corporal punishment.

We are, indeed, willing to confess that we dislike the habitual use of corporal punishment, for many reasons, but we object to it, principally because it is addressed to that kind of fear, which is not only not curative in its nature, but is degrading. It may keep boys still, it may make them obey; but it never makes them esteem order; it never makes them really respect authority; it never makes them love him who imposes it.

We have referred principally to the habitual use of corporal punishment in our boys' Schools, for we are ready to say of him, who, in this age and city avows, that he cannot teach our girls without resort to blows, that he cannot so use the respect, the docility, and the affectionate temper, which characterize the many, as to subdue the perversity of the few, he is not yet fit for the high vocation of teacher.

We cannot but think, that the endeavor to avoid corporal punishment in our schools, would induce our masters to resort to other powers for the maintenance of order; and as the change would be under the awakened attention of the community, and of the Committee, it could hardly fail to be an appeal to higher motives. We shall not suggest any method to be adopted, but content ourselves with making a few further remarks upon the present, or rather the passing system.

It will be found upon examination that, in most of the cases where severe injury has followed corporal punishment in our schools, the offence was very trifling, and no great severity intended when the master began to strike. Moreover it is beyond all question that in the majority of the cases of corporal punishment and other kinds of punishment in our schools, it is inflicted for violations of arbitrary rules of discipline,—for whispering, for disorderly conduct, arising perhaps from mere physical uneasiness, and it is equally certain that the fault in most cases, is as much that of the School, as of the scholar. Whoever will go into our Schools, at any hour of the day, will find a large portion of the scholars unoccupied by any study; they may have a book before them, but as its contents are insipid, or perhaps incomprehensible, but nevertheless to be committed to memory, and as there is no master immediately over them, they do not study. Now, to expect boys full of young life and pent-up vigor, to remain motionless, like soldiers upon duty, is to expect that which is impossible; oftentimes the best boys,—the boys who will make the ablest and best men,—will manifest their uneasiness in a way to bring down a punishment. We say that in such cases the fault is as much that of the school, as of the scholar; and as a general rule, when children under ordinary circumstances are idle, or disorderly in school, we hold this fact to be *prima facie* evidence, either of incapacity in the master or of faulty organization of the School;—there are too many in the class; or they are retained too long at one study; or the air of the school is vitiated; or the seats are irksome; or the mode of instruction is bad;—something is wrong.

The natural love for mental exercise is so great, the variety of objects which may be held up to interest the different mental faculties is so inexhaustible, and it is so easy to kindle the enthusiasm of a class and make it extend even to the dull, that, as we believe, the ferule or the spur of emulation is seldom or never *necessary* to quicken it. We appeal to all who have been idle in School, and how few have not, we appeal to all teachers to say, whether, when an interesting event in history is well told, when the manners and customs of a strange country have been vividly depicted, when a striking experiment in natural philosophy is performed, when a mimic creation is going on upon the black-board, and islands, continents and mountains are opening into view beneath the rapid touches of a good draftsman, is there an idle or mischievous scholar among those who comprehend it? It will be said that it is as impossible to keep up the attention of scholars for any length of time, as it is to hold out a weight, by the extended arm. Exactly so!—and when that moment comes it is time to change the subject or give a recess.

Surely any man aspiring to be a teacher, can claim the attention of ten boys, by the interest he will throw into his lessons, without whip or spur; another will so enchain twenty, another fifty; let each one do all he can do well, and attempt *no* more; the rest of the School can be well governed by assistants. It will be said, that this is mere theory; we point to thousands of Schools in Europe, to scores in our own neighborhood, every whit as difficult to manage as ours, in every respect as well disciplined and as well taught. It will be said that children must be coerced to study some subjects which are too dry and hard to be of themselves interesting: we reply, let the text-books for these studies be as interesting as possible, and let the time for studying them be postponed to a later period of the pupil's school life, to the period when his moral sense is developed, and when he understands the value of time. We know very well that the rod cannot be given up at this moment in our Schools, organized as they are, without substituting some other equally objectionable mode of discipline, but this is not because our children are worse than others, nor because the thing is impossible, but because our schools are labor-saving machines, because an ordinary man, (and surely all our teachers are not extraordinary men,) must, and will take the shortest and easiest course, which is that of coercion, by the fear of physical pain or discomfort; and because we have not enough of female assistance of the highest character. Before we say this cannot be done, let us organize our Schools aright, and give them proper female assistants; of whom there are more than enough that nature has fitted for teachers, to take the place of those incumbents who cannot manage children without a constant and habitual appeal to the lowest motives.

On this subject of corporal punishment, and indeed on many others, your Committee have sought for light and aid from the masters themselves, and have given to each a series of printed questions, in which they were invited to express fully their opinions on many points connected with the welfare of the Schools.

On the question, whether in their opinion corporal punishment has increased or diminished since the passage of the resolution requiring that each case be recorded, most of the masters have preserved a remarkable silence, or evaded the question;—only four come out and say frankly that it has diminished. Now this is remarkable, because the fact of its diminution is becoming notorious, and your Committee have learned from other sources that this diminution is a very material one.

In reply to another question: Do you think that the true interest of your scholars has been promoted by the passage of the resolution? the masters generally answer with an unqualified No. One only says that it has been promoted.

Your Committee feel bound to say that all they can learn on this subject convinces them that the more radical measure of abolishing corporal punishment altogether, would have been premature and probably injurious to the Schools; and that it requires great vigilance on the part of the School Committee and the friends of the scholars to prevent the resort to worse measures than blows, by those who are incapacitated by nature from governing by higher means; and great attention too on their part as friends of the masters, that they may be encouraged and supported in the attempts at reform, which we believe are honestly made.

Your Committee would fain digress here a moment, and allude to what seems to them perfectly obvious, and yet is difficult of proof;—the want of a feeling of manly independence, and of fearless frankness, on the part of the masters. We were everywhere, as your representatives, treated with great respect and deference. But in the reply to many of our oral and printed questions, there very generally seemed to be an excessive reserve. The masters evidently are very desirous of obeying implicitly, and in some cases blindly, every wish of the General Committee; but they seem to fear a secret power which may govern them and the Committee too.

This is very unfortunate, for the Committee never can accomplish its high purpose, without the hearty coöperation and the full confidence of the masters. For want of this, the wisest measures that can be devised in this room, will be productive of very little good in the schoolroom. Your Committee endeavored to meet the masters as gentlemen and friends; and would be equally surprised and pained to learn that any thing on their part inspired that feeling of restraint and reserve, and that indisposition to coöperate with us in an honest endeavor to find out the true condition of the

Schools, which certainly were obvious among a few of them. For instance, we would gladly have gone into the important subject of text books, and we gave to each master among our printed questions the following: Can you suggest any improvement in the text books studied in our Schools?

Most of the masters declined answering this question; those who did answer, touched it as one would handle the edge of a very sharp instrument; and the only full, free and valuable communication was given by an energetic and able master, after assurance *that no public use would be made of it!* Such a state of things ought not to be. It is discreditable to this Committee, and injurious to the masters and to their Schools, to have them placed in such relations, that they dare not express their honest opinion of any text book, used in any department of instruction, let who will own the copy-right.

But to return to the subject of corporal punishment. If it can be abolished only by increasing the gloom of that atmosphere which hangs like a pall over some schoolhouses, where the iron face of authority is the central source whence emanate the fear and distrust that chill the young and timid into unnatural sobriety; if for blows upon the hand there must be blows upon the soul, then we say, give back the rod to the master.

If to adults are given all the property and all the authority in the world, to children is given the heritage of happy hearts; every generation that comes along, proclaims its careless joy by their happy faces and gladsome frolics; and thus through the whole warp of humanity, runs a beautiful thread of happiness, which we may trace back to the great source of all love and all good. We would not that this thread should be needlessly broken for a moment; and we prefer that the few reckless and turbulent spirits, should be kept in subordination by the rod, rather than that a whole School should be held under severe restraint.

Or if the other great motive-power in our Boston Schools, must be increased; if emulation must, even more than it now does, produce envyings and jealousies and strife; and the contented indolence of the many who early find that they cannot succeed; again we say, rather give back the rod. But we do not believe that this is necessary: abundant experience has proved that Schools as large, and as difficult of management as ours, can be governed by an appeal to higher motives than a fear of pain; and we will not believe that the children of Boston are less alive to appeals to their sense of duty,—to their self-respect,—to their love of knowledge, than the children of the most favored city in the world. Nor do we believe that men cannot be found, soon, if not now, competent to the task of guiding and teaching our children by appeals to high motives; for we know that some such are to be found among our present masters. Give them associates who will not try to pull them down to their own inferior level,—give them smaller classes and more assistants,—give them more models,—maps, —apparatus and means of illustration, and above all give them more active and visible sympathy and respect, and every School in Boston will be as one or two are now, a place to which children delight to resort.

We cannot forbear repeating the remark, that we render the highest respect to the faithful teacher and his most useful profession. There is no station higher and more honorable than that occupied by the guides and guardians of youth. The profession of the teacher has a direct influence upon the most important interests of society; it is felt most essentially in the formation of individual character, and in its ultimate effects and consequences, it is coextensive with the existence of the soul itself.

In order adequately to fill this high station, and meet these weighty responsibilities, something more is requisite than mere scholarship. A thorough acquaintance with the various branches of study, taught in our Schools, although indispensable, is yet only a part of the teacher's qualifications.

Much depends upon his moral character. If he is known to be a good man, governing himself by correct principles, and acting habitually from a high sense of duty, he will have the respect and confidence of his pupils. His character will give weight to his instructions, and inspire the youth under his care with motives to study and to good behavior, such as can be supplied from no other source. But if a teacher is reckless of principle, and incapable of controlling his own temper; if he is not seen to be himself in subjection to the authority of conscience, and of God, no other means which he can employ will make him a good disciplinarian. He cannot govern his School. He may, by hard words and harder blows, impose temporary restraints upon the pupils; but their characters are unchanged, except from bad to worse.

The efficiency of the teacher depends essentially upon the interest he feels in his scholars. There is a great difference in this respect among instructors, everywhere. Some appear to have no higher object in view, than simply to go through with their required task. If they teach what is demanded by law, and are with their pupils during the hours assigned in the regulations, they are satisfied. They have apparently no further interest in those immortal minds whose training for this world ,and for the future, is in a great measure committed to their agency. Such men are influenced by selfish and mercenary motives, and whatever may be their other qualifications, are unfit for duties, of which they know not the worth.

Is there not some light thrown upon the duties of a schoolmaster, by the analogies which connect this office with that of a minister of religion? He should be the known and fast friend of those who confide themselves to his instruction. He should be acquainted with the scholars, should visit them at their home, and show an affectionate, parental interest in their welfare. Surely he may be likened to a clergyman in this; that his power depends not more upon the intelligent performance of his public and required duties, than on the thousand attentions that are prompted by the law of love. The secret of his success consists in knowing those with whom he deals; their individual peculiarities, the influences by which they are surrounded, their habits of thought and action, and in being able to sympathize with them where sympathy is most grateful and most useful. The schoolmaster must toil for many hours of many days, and must have his hours of rest and recreation. We do not ask of him to visit all the homes of his pupils. But occasions sometimes occur, when visits like these would be practicable and most beneficial. Something of this is now done, but more might be done, and would be eminently useful.

In things like these, we think there is room for improvement in our Public Schools. There is too great a distance between the teacher and the pupils. Some of the masters reside out of the city, and never see their scholars except in the schoolroom, and know little or nothing of the influences which are bearing upon them in private life. Instead of that free and confiding intercourse which has so powerful an influence upon the warm and generous hearts of youth, the teacher is seen or heard of, loved or feared, only as "the master."

The efficiency and success of the teacher, it may be said, depends very much upon the character of the scholars. If they are dull and unamiable, ungrateful and stupid, his efforts are all lost upon them. But the old proverb is true in reference to teachers, as well as clergymen, "Like priest, like people." The teacher, after all, may make his own School. It follows very closely the model of his own character.

If he is competent to his profession, and feels that interest and enthusiasm in it which he ought to feel, he will of necessity infuse life and vigor into his pupils; and as to the love, gratitude and confidence of his scholars, these are obtained only by paying the price. He must deserve them. Let him cherish a deep interest in their welfare, and show by patient attention to their mental and moral culture, in season and out of season, that he seeks their good, and he cannot fail to touch a spring from which shall gush forth emotions of gratitude and love. Let him give himself wholly to his work. Let the pupils have the full benefit of his intellectual resources, and ever feel when in his presence the refreshing influence of a kind and honest heart, and his words will drop upon them like the rain, and distil as the dew. He will thus rise to the elevated and dignified level of his profession, and the blessing of thousands that are ready to perish will come upon him. Our Schools, under such a guardianship, would be what they ought to be, so many centres of a healthful moral influence;—the salt of the earth and the light of the world.

Finally, we would deprecate the conclusion, that we have, in our desire to find out and reform the errors and deficiencies of our Schools, overlooked their excellences, which are many and various. All honor to the venerable men who founded such institutions; all honor to the city which so generously upholds them; all honor to our predecessors who have stolen time from the severe labors of the day, and from their hours of rest at night, to watch over and improve them; all honor, and all praise,—aye! the highest and sincerest, to those masters who have heretofore labored, or now labor, with steadfastness and zeal,—giving their time, their love, their life, to a cause which *they* regard as the noblest to which a mortal can devote himself,—the moulding and training of immortal spirits!

These are not words of hollow pretence; these are not merely feelings got up in the closet: we have, during our long and severe labor, been often cheered by the thought that the Schools we were examining were worthy of more than we could do for them; and we have formed acquaintance with masters whom we must ever respect and esteem. That many of our Schools are far better than they once were, we well know, and gladly acknowledge. But the knowledge that there are such improvements, has only made us look to the possibility of farther progress, and resolve to do all in our power to leave for our children Schools as much better than the present, as the present are better than those of olden time.

THEOPHILUS PARSONS,
S. G. HOWE,
ROLLIN H. NEALE.

EXPLANATION OF THE TABLES.

These tables have been prepared with very great labor and care. It was necessary, however, to have them printed in haste, and a work which should have occupied several months, has been done in a few weeks. It may be, therefore, that there are some errors in them ; but it is believed that they will generally be found in favor of the schools. For instance, in looking for errors in definitions, the rule has been, that when the scholar expressed himself obscurely, but seemed to have an idea of the meaning of the word, he should be considered as having answered correctly. So in geography, history, philosophy, &c., though the answers were ungrammatical, and contained errors in spelling and punctuation, still they have been recorded in the column of *correct* answers, if the scholar seemed to have a correct idea of the subject.

As to the columns containing the errors in spelling, grammar and punctuation, they probably fall short of the real number, because while none would be found that were not in the scholars' answers, hundreds may have been overlooked in such a mass of papers. The number of errors in punctuation seems so enormous, that the Committee may be suspected of hypercriticism ; it may be said that punctuation is a mere matter of taste, and that any man may point out hundreds of errors in the works of the best authors. But in looking over the answers written by our scholars, care has been taken to record only the most palpable errors in punctuation. The list has been swelled mainly by the *omissions* of commas and periods where the sense absolutely required them. Sometimes errors will be found set down in the columns of errors in punctuation and spelling, against a question which is recorded as *not having been answered ;* and this is the explanation : a boy writes against the question, "*I dont know never studed the subject*" Here the question would be recorded as unanswered, and yet one error in spelling, and two errors in punctuation would be recorded against him.

Lest the form of the tables should not be understood, we here observe, that the first column on the left hand refers to the number of the question, to prevent repetition in printing, though at the time of writing every scholar had the questions, plainly printed, before his eyes, and wrote his answers under them. The second column contains the number of answers *correct as to sense;* the third contains those *incorrect as to sense;* the third, fourth, fifth and sixth contain, respectively, the number of errors in grammar, spelling and punctuation; the seventh contains the number of questions not answered, and the eighth the percentage of correct answers relatively to the whole number of answers that *should have been given*, supposing all the questions to have been answered.

The column representing the percentage of correct answers in each school, in each study, is obtained by taking the number of scholars examined, and multiplying it by the whole number of questions; this shows the number of answers which they should have given; then taking the number of correct answers which they did give, and ascertaining the proportion between them.

The relative rank of each school in each study, is obtained by multiplying the percentage of correct answers by the percentage of the scholars examined.

Table VII. is given as a fair specimen of the standing of our best or medal scholars. It is known that in the first class of each school, there are six medals awarded annually to the best scholars in each school, except in the case that there are no scholars "much advanced in improvement." The scholars of the Smith school for colored children, receive no medals; the Otis and New South are excluded on account of their not being fully organized; from each of the other schools (with one exception) the name of one medal scholar of the present year was taken at random, from the list printed in the newspapers, all being unknown to the Committee except two or three. The answers written by these fifteen medal scholars to questions about History, are printed carefully from their papers, exactly as they spelled the words, and punctuated the sentences, and used capitals or small letters.

Table VIII. contains the answers given by the same fifteen medal scholars to the questions in Definitions. These two tables, of necessity, present the best aspect of the schools, for they are the answers by the *best* scholars in the first class.

Table IX. is made by taking from a school which has more than a medium rank, the answers to questions in Natural Philosophy, written by five scholars of the first class, first division, including one medal scholar; and they are supposed to present a fair specimen of the mode in which the average of the scholars express themselves on paper.

Table X. contains the answers of the same scholars to questions in Grammar.

But in order to allow every one to judge for himself, there is still another table, No. XI., made up by taking from one of our girls' schools the answers given by the ten first scholars, according to the alphabetical order of their names. Side by side with this are the answers written to the *same questions* by the ten first scholars in alphabetical order, in a girls' school in a neighboring town.

Specimens should have been given of the method of drawing maps, but this would have caused much delay and expense. Each scholar was required to sketch on his paper an outline of Italy, and many attempted it, but of the whole number, [500] only *seventeen* made a drawing which could have been recognized as a representation of Italy by one who did not know what the scholar was trying to do. In the Dudley school more than 50 per cent. of the scholars drew such an outline as could be recognized.

The specimens of map drawing, from some of the city schools, are very creditable ; but few of the scholars can sketch a representation of the outline of a country without having a map before their eyes for a pattern.

All mention of names of schools or of scholars has been omitted in these last tables for obvious reasons, but the original papers, written by the scholars, are carefully preserved, and are at the service of any one.

The mode of examination by written questions, has been used with great success in many schools and colleges ; but we are not aware of any tabularization like this having been attempted.

N. B. When the per cent. of correct answers, or the proportion of the School examined, is one half per cent. it is counted in the scholars favor ; when less than one half, it is omitted.

APPENDIX

CONTAINING THE TABLES

REFERRED TO IN THE

REPORT.

WORCESTER'S HISTORY. TABLE. I.

Question 1. What is History?

Question 2. What are some of the uses of History?

Question 3. Enumerate some of the sources of History?

Question 4. What nations are among the first mentioned in History?

Question 5. For what were the Egyptians distinguished?

Question 6. For what were the Phœnicians distinguished?

Question 7. Who was the founder of Babylon, and about what period did he live?

Question 8. Who was the founder of the Persian empire?

Question 9. Who were some of the most distinguished orators and poets of Greece?

Question 10. Who was the founder of Rome?

Question 11. What was the character of the early government of Rome?

Question 12. Can you mention the names of the Roman Emperors?

Question 13. Can you give any account of the feudal system?

Question 14. What were the purposes of the crusades?

Question 15. In what century was the great French Revolution, and who were some of the characters who figured in it?

Question 16. What nation ruled Britain at the commencement of the Christian Era?

Question 17. Who were the Saxons, and how came they to invade Britain?

Question 18. What do you understand by the Norman Conquest?

Question 19. What was the period of the Commonwealth in England, and who was the most distinguished character in it?

Question 20. About what period did the first colonists come to New England, and what were the supposed motives for their leaving the mother country?

Question 21. How long did they continue subject to the mother country, and what were some of the assigned reasons for throwing off her government?

Question 22. When did the war of the American Revolution commence, and who were the allies of the Americans?

Question 23. When was the present Federal Constitution formed, during or after the war of the Revolution, and how many States accepted it at its formation?

Question 24. About what period was the embargo laid by President Jefferson, and non-intercourse substituted for it?

Question 25. About what period did the last war between Great Britain and the United States commence, and what were the causes assigned by the Americans for its declaration?

Question 26. What do you understand by an embargo?

Question 27. How many more members are there now, in the Senate of the United States than there were at its first adoption?

Question 28. What was the result of the invasion of Canada by the Americans in the last war?

Question 29. What is Chronology?

Question 30. What are the eras the most used in Chronology?

Examination in Worcester's History.

ADAMS SCHOOL.

Total number of scholars 418; No. examined 20; average age of those examined 12 yrs. 11 mos.

BOYLSTON SCHOOL.

Total number of scholars 534; No. examined 25; average age of those examined 14 yrs.

	ADAMS SCHOOL.							BOYLSTON SCHOOL.						
No. of the question.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.
1	18	0	2	15	0	2		25	0	4	17	1	0	
2	15	2	2	19	0	3		6	10	3	18	2	9	
3	13	1	0	29	0	6		6	1	3	13	0	18	
4	12	2	0	27	0	6		16	9	5	23	1	0	
5	13	0	0	14	0	7		16	4	2	13	1	5	
6	5	0	0	15	0	15		6	0	4	1	11	19	
7	2	5	0	20	0	13		13	0	0	13	0	12	
8	7	0	0	20	0	13		10	0	3	7	0	15	
9	11	2	2	23	0	7		3	6	0	17	0	16	
10	20	0	1	15	0	0		10	8	5	0	14	7	
11	10	5	1	13	0	5		6	0	0	14	0	19	
12	14	0	0	51	0	6		1	0	2	8	0	24	
13	4	14	4	31	0	2		3	6	0	12	0	16	
14	19	0	4	18	0	1		15	0	1	15	0	10	
15	7	12	0	42	1	1		7	10	3	21	0	8	
16	11	8	2	17	1	1		13	11	0	18	0	1	
17	16	2	11	49	1	2		14	10	5	28	2	1	
18	12	1	1	13	0	7		14	3	1	16	2	8	
19	16	3	0	22	0	1		10	14	1	25	0	1	
20	11	9	1	24	0	0		19	6	7	31	5	0	
21	14	4	6	28	0	2		16	7	8	23	0	2	
22	17	3	0	24	0	0		3	19	0	21	0	3	
23	11	8	0	32	0	1		9	15	1	27	1	1	
24	15	3	0	14	0	2		10	2	0	5	0	13	
25	16	1	8	29	1	3		7	7	7	20	1	11	
26	1	10	1	12	0	9		12	2	1	14	0	11	
27	13	0	0	17	0	7		2	3	0	7	0	20	
28	15	0	3	13	0	5		8	4	2	0	10	13	
29	9	2	0	12	0	9		4	3	1	14	0	18	
30	7	0	0	7	0	13		3	1	0	4	0	21	
	354	97	49	665	4	149	.59	287	161	69	445	51	302	.38

Proportion of the school examined .05; relative rank .0295.

Proportion of the school examined .05; relative rank .0190.

Examination in Worcester's History.

	BOWDOIN SCHOOL.							BRIMMER SCHOOL.						
	Total number of scholars 508; No. examined 42; average age of those examined 14 yrs. 8 mos.							Total number of scholars 513; No. examined 36; average age of those examined 13 years.						
No. of the question.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.
1	42	0	1	9	0	0	-	33	1	3	19	2	2	
2	31	11	1	17	1	0	-	0	15	6	15	3	21	
3	36	1	1	36	0	5	-	2	9	4	6	0	25	
4	42	0	2	40	2	0	-	18	11	3	17	5	7	
5	37	0	2	21	0	5	-	14	4	3	13	5	18	
6	19	10	1	22	1	13	-	2	1	0	2	0	33	
7	11	24	4	29	0	7	-	1	6	0	5	0	29	
8	36	1	1	22	0	5	-	1	2	0	1	0	33	
9	16	15	1	28	0	11	-	7	4	1	4	0	25	
10	42	0	1	22	0	0	-	28	1	0	10	0	7	
11	11	9	0	23	0	22	-	7	2	2	6	0	27	
12	24	11	2	48	0	7	-	3	0	1	1	0	33	
13	3	19	1	28	0	20	-	1	2	1	0	0	33	
14	28	2	0	18	0	12	-	11	1	2	3	1	24	
15	13	15	0	22	0	14	-	2	11	2	4	1	23	
16	8	19	1	22	0	15	-	7	13	1	14	0	16	
17	0	12	1	23	0	30	-	2	2	1	1	0	32	
18	12	2	2	16	0	28	-	3	1	0	2	0	32	
19	10	17	0	30	0	15		0	5	0	3	0	31	
20	35	7	1	35	0	0	-	21	14	1	15	7	1	
21	20	15	5	44	4	7	-	9	24	1	12	2	3	
22	15	22	1	31	0	5	-	15	20	2	15	0	1	
23	15	21	1	22	0	6	-	16	18	0	20	1	2	
24	15	18	2	21	0	9	-	6	23	0	17	0	7	
25	9	28	1	28	0	5	-	9	21	0	15	0	6	
26	29	4	3	16	6	9	-	13	12	1	14	3	11	
27	0	30	0	21	0	12	-	20	8	0	11	1	8	
28	14	8	2	16	0	20	-	14	7	3	11	1	15	
29	25	2	1	26	0	15	-	7	10	2	7	0	19	
30	9	12	0	21	0	21	-	7	2	0	7	1	27	
	607	335	39	757	14	318	.48	279	250	40	270	33	551	.26
	Proportion of the school examined .08; relative rank .0384.							Proportion of the school examined .07; relative rank .0182.						

Examination in Worcester's History.

ELIOT SCHOOL.

Total number of scholars 456; No. examined 21; average age of those examined 12 yrs. 8 mo.

No. of the question.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.
1	19	0	6	11	0	2	
2	18	1	3	20	0	2	
3	14	2	2	19	0	5	
4	10	11	2	25	0	0	
5	5	4	2	9	0	12	
6	4	0	0	4	1	17	
7	0	2	1	1	0	19	
8	9	0	2	4	0	12	
9	0	3	0	0	0	18	
10	9	0	2	1	0	12	
11	3	2	0	2	0	16	
12	1	5	1	4	0	15	
13	0	1	1	4	0	20	
14	0	5	1	5	1	16	
15	5	6	3	17	1	10	
16	5	14	1	11	0	2	
17	10	4	5	18	2	7	
18	6	4	4	11	0	11	
19	3	5	1	8	0	13	
20	13	5	4	24	2	3	
21	10	4	6	14	2	7	
22	13	4	0	23	0	4	
23	12	7	1	26	0	2	
24	12	0	0	13	0	9	
25	2	8	0	15	1	11	
26	11	3	2	9	0	7	
27	0	8	0	9	0	13	
28	9	0	7	7	0	12	
29	8	1	2	8	0	12	
30	3	3	3	4	2	15	
	214	112	62	326	12	304	.34

Proportion of the school examined .05; relative rank .0170.

ENDICOTT SCHOOL.

Total number of scholars 478; No. examined 18; average age of those examined 13 years.

No. of the question.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.
1	11	0	1	7	0	7	
2	4	1	1	5	1	13	
3	3	0	0	0	0	15	
4	3	4	1	4	0	11	
5	0	0	0	1	0	18	
6	0	0	0	0	0	18	
7	0	0	0	0	0	18	
8	0	0	0	0	0	18	
9	0	0	0	0	0	18	
10	0	0	0	0	0	18	
11	0	0	0	0	0	18	
12	0	0	0	0	0	18	
13	2	0	0	0	0	16	
14	2	0	0	1	0	16	
15	1	1	0	2	1	16	
16	1	3	1	2	0	14	
17	7	5	5	15	0	6	
18	9	0	0	7	0	9	
19	6	2	0	10	0	10	
20	10	7	6	21	1	1	
21	1	11	2	16	0	6	
22	6	8	0	10	0	4	
23	12	3	0	18	0	3	
24	11	2	1	21	0	5	
25	10	3	4	21	1	5	
26	6	1	0	6	1	11	
27	1	11	0	9	0	6	
28	7	1	2	4	0	10	
29	1	0	0	1	0	17	
30	0	1	0	0	0	17	
	114	64	24	186	5	362	.21

Proportion of the school examined .04; relative rank .0084.

Examination in Worcester's History.

FRANKLIN SCHOOL.

Total number of scholars 418; No. examined 19; average age of those examined 14 yrs. 6 mos.

HAWES SCHOOL.

Total number of scholars 408; No. examined 17; average age of those examined 13 yrs. 9 mos.

	FRANKLIN SCHOOL.							HAWES SCHOOL.						
No. of the question.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.
1	17	0	1	7	0	2		16	0	4	4	0	1	
2	9	2	1	6	0	8		2	10	0	5	0	5	
3	1	4	3	2	0	14		6	1	1	1	0	10	
4	3	6	1	8	0	10		5	5	0	7	0	7	
5	5	1	0	6	0	13		4	2	1	6	0	11	
6	2	1	0	5	1	16		4	0	0	2	0	13	
7	0	1	0	3	0	18		0	1	1	2	0	16	
8	1	0	0	3	0	18		0	0	0	0	0	17	
9	1	1	0	4	0	17		1	4	0	1	0	12	
10	5	0	0	7	0	14		5	0	1	2	0	12	
11	1	1	0	3	0	17		0	3	0	3	0	14	
12	1	0	0	2	0	18		1	3	2	2	0	13	
13	1	3	0	0	0	15		0	1	0	1	0	16	
14	8	0	1	4	1	11		5	0	0	3	0	12	
15	2	4	1	2	0	13		0	6	1	1	0	11	
16	5	6	0	7	0	8		3	3	0	4	0	11	
17	11	3	3	14	1	5		3	4	1	5	0	10	
18	2	4	0	3	0	13		5	5	1	6	0	7	
19	3	4	1	2	0	12		3	3	0	2	0	11	
20	16	3	0	5	0	0		5	11	3	17	1	1	
21	8	5	0	7	0	6		4	10	7	17	0	3	
22	3	9	0	1	0	7		5	9	0	13	0	3	
23	10	4	0	0	0	5		8	9	0	16	0	0	
24	10	4	0	0	0	5		13	2	0	11	0	2	
25	7	7	0	6	0	5		11	5	5	15	0	1	
26	4	7	0	6	0	8		4	6	1	8	0	7	
27	6	3	0	1	1	10		1	3	0	3	0	13	
28	1	4	0	0	0	14		6	4	3	4	0	7	
29	3	1	0	3	0	15		2	2	0	3	0	13	
30	2	2	0	2	0	15		2	2	0	3	0	13	
	148	90	12	119	4	332	.26	124	114	32	167	1	272	.24

Proportion of the school examined .05; relative rank .0130.

Proportion of the school examined .04; relative rank .0096.

Examination in Worcester's History.

HANCOCK SCHOOL.

Total number of scholars 509; No. examined 45; average age of those examined 13 yrs. 9 mos.

JOHNSON SCHOOL.

Total number of scholars 547; No. examined 50; average age of those examined 13 yrs. 6½ mos.

	HANCOCK SCHOOL.							JOHNSON SCHOOL.						
No. of the question.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent .of cor. answ.
1	27	3	5	8	0	15		46	0	1	22	0	4	
2	1	7	1	11	0	37		5	9	0	3	0	36	
3	18	1	0	9	0	26		35	0	6	22	5	15	
4	19	2	0	7	0	24		32	13	1	23	3	5	
5	7	2	1	8	1	36		19	3	0	10	11	28	
6	5	4	1	9	1	36		7	2	0	5	0	41	
7	0	10	0	7	0	35		0	6	0	5	0	44	
8	1	0	0	9	0	44		0	3	0	3	0	47	
9	5	1	1	7	0	39		11	7	0	8	1	32	
10	31	0	1	13	0	14		2	5	0	4	0	43	
11	8	2	0	10	0	35		2	3	0	7	0	45	
12	6	12	0	6	0	27		2	0	0	4	0	48	
13	0	0	0	10	0	45		3	1	0	4	1	46	
14	3	0	2	8	0	42		3	0	0	4	0	47	
15	0	2	2	8	0	43		0	3	0	6	0	47	
16	11	14	1	14	0	20		1	16	1	9	0	33	
17	13	6	0	10	0	26		1	4	0	4	0	45	
18	5	0	1	11	0	40		1	1	0	2	0	48	
19	0	2	1	6	0	43		1	3	0	2	0	46	
20	22	10	5	7	0	13		30	9	0	16	4	11	
21	3	7	7	11	0	35		6	8	2	5	1	36	
22	22	15	1	13	0	8		7	14	0	6	0	29	
23	9	9	0	15	0	27		6	18	0	9	1	26	
24	3	2	0	3	0	40		3	11	0	6	0	36	
25	2	9	3	11	0	34		12	10	3	10	3	28	
26	8	1	4	9	0	36		14	11	1	5	0	25	
27	0	0	0	3	0	45		0	18	1	8	0	32	
28	4	0	2	6	0	41		4	4	0	6	0	42	
29	1	3	1	11	1	41		4	3	0	6	0	43	
30	0	0	2	10	0	45		7	0	0	5	0	43	
	234	124	42	270	3	992	.17	264	185	16	229	30	1051	.18

Proportion of the school examined .09; relative rank .0153.

Proportion of the school examined .09: relative rank .0162.

Examination in Worcester's History.

MATHER SCHOOL.

Total number of scholars 485 ; No. examined 18 ; average age of those examined 14 yrs. 6 mos.

No. of the question.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.
1	17	1	4	14	0	0	
2	11	3	1	12	0	4	
3	10	2	1	19	0	6	
4	11	3	2	12	0	4	
5	5	2	1	7	0	11	
6	1	3	0	3	0	14	
7	0	5	0	3	0	13	
8	3	0	0	1	0	15	
9	0	3	2	3	0	15	
10	8	0	7	7	0	10	
11	0	2	0	0	0	16	
12	0	1	0	2	0	17	
13	0	1	0	1	0	17	
14	6	2	2	6	0	10	
15	2	7	2	6	0	9	
16	5	8	1	10	0	5	
17	4	7	1	9	0	7	
18	4	3	1	4	0	11	
19	2	1	1	2	0	15	
20	15	3	0	10	0	0	
21	5	7	4	7	1	6	
22	4	11	0	6	0	3	
23	5	12	1	14	0	1	
24	17	0	0	0	0	1	
25	7	8	1	8	0	3	
26	5	9	1	11	0	4	
27	2	3	0	0	0	13	
28	5	5	1	6	0	8	
29	5	5	0	6	0	8	
30	2	1	0	1	0	15	
	161	118	34	190	1	261	.30

Proportion of the school examined .04 ; relative rank .0120.

MAYHEW SCHOOL.

Total number of scholars 368 ; No. examined 21; average age of those examined 13 yrs. 6 mo.

No. of the question.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.
1	20	1	7	7	0	0	
2	1	14	0	7	2	6	
3	6	1	0	3	0	14	
4	16	4	0	17	0	1	
5	10	2	0	8	0	9	
6	1	0	1	2	0	20	
7	0	2	1	1	0	19	
8	0	1	0	0	0	20	
9	5	2	2	2	0	14	
10	14	1	3	10	0	6	
11	2	3	1	6	0	16	
12	1	1	0	0	0	19	
13	0	1	0	3	0	20	
14	16	1	1	8	0	4	
15	4	9	2	6	0	8	
16	0	13	1	7	0	8	
17	2	4	0	3	1	15	
18	1	4	0	3	1	16	
19	1	3	1	4	0	17	
20	10	10	4	10	0	1	
21	2	12	5	9	0	7	
22	13	6	0	9	0	2	
23	1	17	0	7	0	3	
24	11	4	0	0	0	6	
25	10	9	0	11	0	2	
26	4	7	0	6	0	10	
27	1	1	0	0	0	19	
28	7	1	1	4	0	13	
29	3	3	1	5	0	15	
30	1	2	0	0	0	18	
	163	139	31	158	4	328	.26

Proportion of the school examined .06 ; relative rank .0156.

Examination in Worcester's History.

OTIS SCHOOL.

Total number of scholars 467; No. examined 26; average age of those examined 13 yrs. 2 mos.

PHILLIPS SCHOOL.

Total number of scholars 440; No examined 23; average age of those examined 12 yrs. 8 mos.

	OTIS SCHOOL.							PHILLIPS SCHOOL.						
No. of the question.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.
1	10	1	0	6	1	15		2	2	2	5	0	19	
2	2	0	0	4	1	24		2	3	1	4	0	13	
3	0	0	0	0	0	26		0	1	2	10	0	22	
4	3	7	1	6	0	16		0	2	1	9	0	21	
5	1	0	0	2	0	25		0	1	2	11	0	22	
6	0	0	0	0	0	26		0	0	2	12	0	23	
7	0	0	0	0	0	26		0	0	1	7	0	23	
8	2	1	1	2	0	23		0	0	2	12	0	23	
9	0	2	0	1	0	24		0	4	1	8	0	19	
10	13	0	2	8	0	13		6	1	2	9	0	16	
11	0	0	0	0	0	26		0	1	2	7	0	22	
12	0	0	0	0	0	26		0	0	1	8	0	23	
13	0	0	0	0	0	26		0	0	2	8	0	23	
14	0	0	0	0	0	26		2	0	1	8	0	21	
15	0	1	0	0	0	25		1	1	2	11	0	21	
16	0	3	2	3	0	23		2	0	2	9	0	21	
17	0	0	0	0	0	26		1	3	2	8	0	19	
18	0	0	0	0	0	26		2	1	2	10	0	20	
19	0	6	0	2	0	20		0	0	2	14	0	23	
20	11	8	0	6	3	7		5	11	7	17	2	7	
21	1	7	0	4	3	18		5	14	0	12	2	4	
22	11	6	0	10	0	9		4	18	1	11	0	1	
23	0	11	0	7	1	15		9	12	0	8	1	2	
24	5	0	0	1	0	21		2	13	0	5	0	8	
25	0	8	0	4	0	18		2	12	8	8	4	9	
26	0	0	0	0	0	26		0	10	2	10	0	13	
27	3	6	0	3	0	17		0	1	0	9	0	22	
28	0	0	0	0	0	26		3	8	0	3	0	12	
29	3	12	0	7	0	11		2	0	3	7	0	21	
30	3	0	3	2	3	23		2	0	2	8	0	21	
	68	79	9	78	12	633	.09	52	119	55	268	9	519	.08

Proportion of the school examined .06; relative rank .0054.

Proportion of the school examined .05; relative rank .0040.

Examination in Worcester's History.

WELLS SCHOOL.

Total number of scholars 307; No. examined 29; average age of those examined 13 yrs.3 mos.

WINTHROP SCHOOL.

Total number of scholars 507; No. examined 28; average age of those examined 14 yrs.6½ mo.

	WELLS SCHOOL.							WINTHROP SCHOOL.						
No. of the question.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.
1	29	0	1	13	0	0		26	0	5	23	0	2	
2	9	4	2	20	0	16		5	15	2	19	2	8	
3	1	0	0	12	0	28		3	5	4	18	0	20	
4	11	0	1	14	1	18		14	11	3	25	0	3	
5	10	0	0	11	0	19		12	5	8	24	1	11	
6	1	0	0	14	0	28		7	4	1	24	1	17	
7	0	1	0	13	0	28		1	11	1	18	0	16	
8	0	0	0	12	0	29		14	1	1	19	0	13	
9	1	4	0	14	0	24		1	8	1	19	1	19	
10	24	1	2	13	0	4		22	0	4	18	1	6	
11	7	1	3	10	0	21		1	8	2	19	1	19	
12	6	1	1	16	0	22		5	5	9	33	1	18	
13	0	2	0	11	0	27		1	7	4	21	0	20	
14	2	7	0	13	0	20		13	3	6	20	3	12	
15	4	19	4	20	0	6		1	16	4	23	0	11	
16	16	11	0	17	1	2		12	12	0	20	0	4	
17	14	8	4	28	3	7		11	7	10	25	1	10	
18	11	3	0	14	0	15		6	10	4	25	1	12	
19	4	7	0	19	0	18		4	5	0	12	0	19	
20	20	5	4	26	0	4		13	10	0	21	0	5	
21	3	14	2	23	0	12		10	8	6	16	1	10	
22	10	16	1	27	0	3		9	12	0	17	0	7	
23	13	6	0	32	0	10		3	20	0	13	0	5	
24	19	5	0	35	0	5		14	4	0	9	0	10	
25	4	18	3	23	1	7		11	7	3	15	0	10	
26	7	13	1	15	0	9		7	3	2	15	0	18	
27	7	9	0	15	0	13		0	7	0	9	0	21	
28	12	6	0	16	0	11		10	1	0	15	0	17	
29	6	7	4	18	3	16		6	1	1	18	0	21	
30	3	0	0	9	0	26		2	5	1	20	0	21	
	254	168	33	523	9	448	.29	244	211	82	573	14	385	.29

Wells School: Proportion of the school examined .09; relative rank .0261.

Winthrop School: Proportion of the school examined .06; relative rank .0174.

Examination in Worcester's History.

DUDLEY SCHOOL—ROXBURY.

Total number of scholars 350; No. examined 29; av. age 14 yrs. 6 mo

No. of the question.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.
1	29	0	1	10	0	0	
2	25	4	0	18	2	0	
3	28	0	1	27	0	1	
4	28	1	0	22	0	0	
5	26	0	0	9	2	3	
6	22	0	0	15	2	7	
7	1	22	0	14	0	6	
8	17	2	1	13	0	10	
9	11	15	0	24	0	3	
10	29	0	3	15	0	0	
11	24	5	1	11	0	0	
12	14	15	1	35	0	0	
13	11	5	0	7	1	13	
14	24	0	0	14	0	5	
15	1	5	0	13	0	23	
16	2	7	0	13	0	20	
17	1	1	1	12	0	27	
18	1	0	0	11	0	28	
19	1	1	0	13	0	27	
20	18	8	2	23	0	3	
21	9	11	1	10	0	9	
22	13	9	0	21	0	7	
23	5	18	1	16	0	6	
24	0	5	0	15	0	24	
25	2	5	0	13	0	22	
26	5	4	0	12	0	20	
27	0	2	0	10	0	27	
28	1	3	0	10	0	25	
29	14	0	0	12	0	15	
30	6	0	0	11	0	23	
	368	148	13	449	7	354	.42

Proportion of the school examined .08; relative rank .0336.

GEOGRAPHY. TABLE II.

Question 1. Name the principal lakes in North America.

Question 2. Name the principal rivers in North America.

Question 3. Name the rivers running eastward into the Mississippi.

Question 4. Name the rivers running westward into the Mississippi.

Question 5. Name the states which lie upon each bank of the Mississippi, and their capitals.

Question 6. Do the waters of Lake Erie run into Lake Ontario, or the waters of Ontario into Erie?

Question 7. Which is most elevated above the level of the sea, Lake Superior or Lake Huron?

Question 8. Write down the boundaries of Lake Erie.

Question 9. Quebec is (according to your maps) 4° 40′ north from Boston; Ithaca in New York, is 5° 30′ west from Boston. Which place is farthest from Boston?

Question 10. What is the general course of the rivers in North and South Carolina?

Question 11. What is the general course of the rivers in Kentucky and Tennessee?

Question 12. What is the cause of the rivers in these four contiguous states running in opposite directions?

Question 13. Which is most accessible, in its interior parts, to ships and to commerce, Europe or Africa?

Question 14. Name the empires of Europe.

Question 15. Name the kingdoms of Europe.

Question 16. Name the republics of Europe.

Question 17. What is the nearest route from England to India,—by the Cape of Good Hope, or by the Red Sea?

Question 18. What do you understand by the line of perpetual snow?

Question 19. On which range of mountains is the line of perpetual snow most elevated above the ocean, on the Rocky Mountains of North America, or on the Cordilleras of Mexico?

Question 20. The city of Mexico is in 20° of N. latitude; the city of New Orleans is in 30° of N. latitude. Which has the warmest climate?

Question 21. Name the rivers, gulfs, oceans, seas and straits, through which a vessel must pass in going from Pittsburg in Pennsylvania, to Vienna in Austria.

Question 22. On which bank of the Ohio is Cincinnati, on the right or left?

Question 23. What are the principal natural and artificial productions of New England?

Question 24. Over what continents and islands does the line of the equator pass?

Question 25. What parts of the globe have the longest days?

Question 26. If a merchant in Moscow dines at 3 o'clock, P. M., and a merchant in Boston at 2 o'clock, which dines first?

Question 27. Name the countries which lie around the Mediterranean Sea.

Question 28. What countries lie around the Black Sea?

Question 29. What rivers flow into the Black Sea?

Question 30. Name the principal ports of Russia on the Black Sea, on the White Sea, and on the Gulf of Finland.

Question 31. Draw an outline map of Italy.

Examination in Geography.

ADAMS SCHOOL.

Total number of scholars 418; No. examined 36; average age of those examined 12 yrs. 11 mos.

No. of the question.	Correct answers.	Incorrect answers.	Errors in Spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.
1	29	7	12	84	0	0	
2	28	8	30	109	0	0	
3	16	20	9	54	0	0	
4	4	31	9	54	0	1	
5	18	17	43	163	0	1	
6	10	22	0	28	1	4	
7	26	2	0	30	0	8	
8	6	25	13	73	0	5	
9	20	13	3	30	0	3	
10	15	21	0	32	0	0	
11	9	26	0	32	0	1	
12	8	6	3	33	1	22	
13	35	1	0	31	0	0	
14	18	16	0	59	0	2	
15	25	11	13	47	0	0	
16	6	21	2	36	0	9	
17	20	12	0	30	0	4	
18	3	19	0	30	2	14	
19	8	15	0	26	0	13	
20	11	22	0	31	0	3	
21	9	13	11	88	1	14	
22	18	9	0	24	0	9	
23	5	14	0	42	0	17	
24	6	16	1	48	0	14	
25	4	16	1	17	0	16	
26	15	4	0	19	0	17	
27	9	16	2	88	0	11	
28	15	8	4	35	0	13	
29	9	11	18	42	0	16	
30	13	9	5	36	0	14	
31	3	16	0	0	0	17	
	421	447	179	1451	5	248	.38

Proportion of the school examined .09; relative rank .0342.

BOYLSTON SCHOOL.

Total number of scholars 534; No. examined 33; average age of those examined 14 yrs.

Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.
30	3	2	111	0	0	
27	6	14	118	0	0	
25	7	4	55	0	1	
11	22	8	60	0	0	
17	13	17	197	0	3	
21	7	1	18	0	5	
27	2	1	27	0	4	
6	10	0	41	0	17	
10	14	3	25	0	9	
28	3	0	20	0	2	
12	17	0	24	0	4	
3	4	1	25	0	26	
28	1	0	32	0	4	
15	11	0	52	0	7	
16	12	12	127	0	5	
1	11	1	26	0	21	
13	17	0	23	0	3	
10	15	2	21	0	8	
6	16	1	22	0	11	
10	18	0	23	0	5	
0	7	12	56	0	26	
24	5	0	18	0	4	
4	10	0	36	0	19	
13	12	6	59	0	8	
7	7	0	15	0	19	
11	3	0	18	0	19	
4	19	1	65	0	10	
9	11	0	29	0	13	
5	17	10	31	0	11	
4	12	2	24	0	17	
0	5	0	0	0	28	
397	317	98	1398	0	309	.39

Proportion of the school examined .06; relative rank .0234.

Examination in Geography.

BOWDOIN SCHOOL.

Total number of scholars 508; No. examined 42; average age of those examined 14 yrs. 8 mos.

No. of the question.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.
1	40	2	2	18	0	0	
2	20	22	29	44	0	0	
3	26	16	1	22	0	0	
4	28	13	4	26	0	1	
5	31	11	52	161	0	0	
6	35	2	0	18	0	5	
7	25	15	0	22	0	2	
8	16	22	3	52	0	4	
9	11	22	15	18	0	9	
10	40	2	0	18	0	0	
11	26	14	0	23	0	2	
12	24	4	2	16	0	14	
13	41	0	0	24	0	1	
14	4	33	0	30	0	5	
15	11	25	12	41	0	6	
16	2	26	2	36	0	14	
17	11	29	0	19	0	2	
18	1	23	12	45	1	18	
19	10	18	0	15	0	14	
20	12	30	0	21	0	0	
21	3	15	13	50	0	24	
22	30	4	0	26	0	8	
23	4	26	0	21	0	12	
24	16	20	5	45	0	6	
25	15	16	0	20	0	11	
26	23	5	0	18	0	14	
27	9	26	0	47	0	7	
28	23	6	0	27	0	13	
29	10	19	16	36	0	13	
30	16	11	4	28	0	15	
31	0	16	0	0	0	26	
	563	493	172	987	1	246	.43

Proportion of the school examined .08; relative rank .0344.

BRIMMER SCHOOL.

Total number of scholars 513; No. examined 40; average age of those examined 13 yrs.

No. of the question.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.
1	37	3	28	74	0	0	
2	36	3	46	122	0	1	
3	18	21	8	72	0	1	
4	1	34	17	53	0	5	
5	16	17	46	106	0	7	
6	10	23	0	31	2	7	
7	28	4	0	20	0	8	
8	10	18	10	46	0	12	
9	12	10	2	17	0	18	
10	26	10	0	26	0	4	
11	7	27	0	28	0	6	
12	8	7	6	11	1	25	
13	30	1	0	25	0	9	
14	11	23	7	53	0	6	
15	12	18	13	77	0	10	
16	3	15	2	28	0	22	
17	16	16	0	22	0	8	
18	1	21	1	21	2	18	
19	12	15	5	32	8	13	
20	10	22	1	22	3	8	
21	0	14	8	28	4	26	
22	16	12	0	21	0	12	
23	6	23	2	48	0	11	
24	6	23	7	47	0	11	
25	4	5	0	6	0	31	
26	9	2	0	11	0	29	
27	7	18	9	63	0	15	
28	17	7	5	30	0	16	
29	4	16	4	22	0	20	
30	4	14	4	27	0	22	
31	2	21	0	0	0	17	
	379	463	231	1189	20	398	.31

Proportion of the school examined .08; relative rank .0248

Examination in Geography.

ELIOT SCHOOL.

Total number of scholars 456; No. examined 22; average age of those examined 12 yrs. 8 mos.

No. of the question.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.
1	19	3	11	34	0	0	
2	22	0	5	67	0	0	
3	8	12	0	19	0	2	
4	5	15	0	16	0	2	
5	6	14	9	154	0	2	
6	20	1	1	16	0	1	
7	21	0	1	17	0	1	
8	18	4	2	53	0	0	
9	9	3	3	10	1	10	
10	22	0	0	2	0	0	
11	10	12	0	19	0	0	
12	10	0	0	11	0	12	
13	19	0	0	15	0	3	
14	17	5	1	31	0	0	
15	16	4	8	112	0	2	
16	0	9	0	7	0	13	
17	16	1	0	1	0	5	
18	2	10	1	10	0	10	
19	6	4	0	9	2	12	
20	2	10	0	11	0	10	
21	0	10	7	42	2	12	
22	0	16	0	7	0	6	
23	5	6	0	36	0	11	
24	2	9	0	23	0	11	
25	9	0	0	9	1	13	
26	10	0	0	7	0	12	
27	2	12	1	39	0	8	
28	7	3	0	16	0	12	
29	1	10	5	21	0	11	
30	4	6	2	15	0	12	
31	4	8	0	0	0	10	
	292	187	57	829	6	203	.43

Proportion of the school examined .05; relative rank .0215.

ENDICOTT SCHOOL.

Total number of scholars 478; No. examined 28; average age of those examined 13 yrs.

No. of the question.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.
1	17	11	1	91	0	0	
2	13	15	18	62	0	0	
3	18	10	10	49	0	0	
4	0	28	7	40	0	0	
5	10	17	55	136	0	1	
6	18	7	0	24	0	3	
7	15	1	0	11	0	12	
8	1	16	4	42	0	11	
9	9	9	1	16	0	10	
10	17	8	0	26	0	3	
11	8	12	0	17	0	8	
12	3	3	3	8	0	22	
13	25	0	0	23	0	3	
14	7	15	7	51	0	6	
15	8	14	15	109	1	6	
16	3	12	2	15	0	13	
17	8	11	0	22	0	9	
18	0	5	0	4	1	23	
19	3	14	0	9	0	11	
20	7	16	0	21	0	5	
21	7	12	28	107	0	9	
22	18	6	0	22	0	4	
23	0	12	4	15	0	16	
24	4	11	2	38	1	13	
25	3	2	0	4	0	23	
26	6	3	0	8	0	19	
27	3	18	0	60	0	7	
28	10	5	0	15	0	13	
29	2	13	3	19	0	13	
30	9	6	0	24	0	13	
31	0	6	0	0	0	22	
	252	318	160	1088	3	298	.29

Proportion of the school examined .06; relative rank .0174.

Examination in Geography.

FRANKLIN SCHOOL.

Total number of scholars 418; No. examined 20; average age of those examined 14 yrs 6 mos.

HAWES SCHOOL.

Total number of scholars 408; No. examined 17; average age of those examined 13 yrs 9 mos.

	FRANKLIN SCHOOL.							HAWES SCHOOL.						
No. of the question.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in Grammar.	Not answered.	Per cent. of cor. answ.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in Grammar.	Not answered.	Per cent. of cor. answ.
1	18	2	6	27	0	0		17	0	0	13	0	0	
2	19	1	11	61	0	0		14	3	6	15	0	0	
3	3	15	2	17	0	2		9	8	1	6	0	0	
4	2	16	3	21	0	2		0	17	1	6	0	0	
5	17	3	10	62	0	0		7	9	16	22	0	1	
6	5	7	0	8	0	8		11	3	0	7	0	3	
7	8	2	0	6	0	10		9	5	0	9	0	3	
8	0	10	2	12	0	10		2	7	0	4	0	8	
9	6	4	0	8	0	10		6	6	0	5	0	5	
10	18	2	0	11	0	0		13	4	0	12	0	0	
11	8	8	0	12	0	4		5	12	0	9	0	0	
12	2	3	0	4	0	15		2	3	0	6	1	12	
13	19	1	0	12	0	0		16	0	0	8	0	1	
14	8	9	0	19	0	3		3	9	1	20	0	5	
15	7	11	6	32	0	2		2	9	3	10	0	6	
16	0	8	0	8	0	12		8	0	2	3	0	9	
17	2	13	0	10	0	5		6	1	0	6	0	10	
18	1	2	0	2	0	17		0	7	0	3	0	10	
19	1	6	0	5	0	13		1	10	0	13	2	6	
20	7	9	0	8	0	4		7	8	0	8	0	2	
21	1	8	5	16	2	11		0	3	0	2	0	14	
22	9	3	1	9	0	8		12	5	0	10	0	0	
23	2	12	2	23	0	6		1	13	2	21	0	3	
24	6	10	2	23	0	4		4	10	0	14	0	3	
25	1	5	0	3	0	14		2	6	2	4	0	9	
26	3	0	0	4	0	17		10	0	0	5	0	7	
27	2	16	0	30	0	2		3	11	1	6	0	3	
28	12	7	0	20	0	1		3	5	0	4	0	9	
29	3	11	0	18	0	6		0	11	0	7	0	6	
30	1	9	0	7	0	10		1	4	0	3	0	12	
31	1	3	0	0	0	16		0	10	0	0	0	7	
	192	216	50	498	2	212	.31	174	199	35	261	3	154	.33

Franklin School: Proportion of the school examined .05; relative rank .0155.

Hawes School: Proportion of the school examined .04; relative rank .0132.

Examination in Geography.

HANCOCK SCHOOL.

Total number of scholars 509; No. examined 45; average age of those examined 13 yrs 9 mos.

No. of the question.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.
1	35	10	7	45	0	0	
2	17	28	11	47	0	0	
3	32	12	3	31	0	1	
4	20	25	7	23	0	0	
5	29	15	19	104	0	1	
6	21	11	0	14	0	13	
7	34	2	0	18	0	9	
8	17	14	9	28	0	14	
9	14	7	2	9	1	24	
10	40	4	0	28	0	1	
11	15	28	0	27	0	2	
12	10	5	2	13	0	30	
13	42	0	0	22	0	3	
14	17	16	4	30	0	12	
15	3	33	16	34	0	9	
16	0	18	0	7	0	27	
17	31	5	0	18	0	9	
18	0	8	0	6	0	37	
19	8	4	0	4	0	33	
20	6	4	0	3	0	35	
21	2	4	3	4	0	39	
22	35	3	0	25	0	7	
23	0	11	3	4	0	34	
24	21	7	1	13	0	17	
25	0	7	0	4	0	38	
26	34	0	0	21	0	11	
27	1	21	4	16	0	23	
28	25	0	2	10	0	20	
29	4	15	0	7	0	26	
30	2	5	1	2	0	38	
31	0	3	0	0	0	42	
	515	325	94	617	1	555	.37

Proportion of the school examined .09; relative rank .0333.

JOHNSON SCHOOL.

Total number of scholars 547; No. examined 49; average age of those examined 13 yrs 6½ mo.

No. of the question.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.
1	33	16	15	78	0	0	
2	32	16	16	86	0	1	
3	13	33	8	44	0	3	
4	5	39	4	29	0	5	
5	23	17	43	137	0	9	
6	33	7	0	27	0	9	
7	29	9	1	15	0	11	
8	4	18	5	32	0	27	
9	16	18	4	22	2	15	
10	43	4	0	27	0	2	
11	12	30	0	29	0	7	
12	4	7	1	16	0	38	
13	45	2	0	24	0	2	
14	3	13	2	29	0	33	
15	3	12	5	52	0	34	
16	1	7	0	12	0	41	
17	14	29	0	23	0	6	
18	4	11	0	13	0	34	
19	13	13	0	19	0	23	
20	16	16	0	23	0	17	
21	2	11	4	44	0	36	
22	23	10	0	23	0	16	
23	0	11	0	13	0	38	
24	15	19	1	46	0	15	
25	8	5	0	9	0	36	
26	15	4	0	12	0	30	
27	3	33	6	50	0	13	
28	14	13	0	32	0	22	
29	2	20	9	26	0	27	
30	2	13	2	20	0	34	
31	0	1	0	0	0	48	
	430	457	126	1012	2	632	.28

Proportion of the school examined .09; relative rank .0252.

Examination in Geography.

MATHER SCHOOL.

Total number of scholars 485; No. examined 17; average age of those examined 14 yrs 6 mos.

MAYHEW SCHOOL.

Total number of scholars 368; No. examined 24; average age of those examined 13 yrs 6 mos.

	MATHER SCHOOL.							MAYHEW SCHOOL.						
No. of the question.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.
1	14	3	10	49	0	0		24	0	9	57	0	0	
2	9	6	18	74	0	2		9	15	40	128	0	0	
3	8	9	4	34	0	0		21	3	2	29	0	0	
4	2	14	7	30	0	1		0	24	14	24	0	0	
5	11	6	17	83	0	0		8	16	47	148	0	0	
6	9	6	1	14	0	2		20	3	0	17	1	1	
7	14	2	0	12	0	1		22	0	1	17	0	2	
8	3	9	8	30	0	5		1	16	0	38	0	7	
9	10	5	0	12	1	2		6	12	2	14	0	6	
10	15	2	0	19	0	0		17	2	0	16	0	5	
11	9	8	0	17	0	0		2	14	0	10	0	8	
12	2	2	4	6	0	13		11	2	5	9	1	11	
13	16	1	0	14	0	0		13	1	0	12	0	10	
14	7	8	2	30	0	2		6	10	3	18	0	8	
15	7	7	4	64	0	3		4	9	8	41	1	11	
16	0	6	0	0	3	11		0	7	0	8	0	17	
17	5	10	0	12	0	2		6	2	0	6	0	16	
18	0	6	0	7	0	11		0	5	0	4	0	19	
19	4	5	0	13	0	8		3	1	0	2	0	20	
20	7	9	0	11	0	1		4	0	0	3	0	20	
21	2	2	0	17	0	13		0	1	0	0	0	23	
22	11	4	0	12	0	2		1	3	0	2	0	20	
23	2	9	0	39	0	6		0	1	0	1	0	23	
24	6	9	3	27	0	2		0	1	0	1	0	23	
25	5	3	1	7	0	9		0	1	0	0	0	23	
26	9	7	0	11	0	1		1	1	0	1	0	22	
27	5	12	2	56	0	0		0	0	0	0	0	24	
28	10	3	0	24	0	4		0	0	0	0	0	24	
29	4	9	1	28	0	4		1	0	2	3	0	23	
30	2	8	1	22	0	7		0	0	0	0	0	24	
31	0	5	0	0	0	12		0	0	0	0	0	24	
	208	195	83	774	4	124	.39	180	150	133	609	3	414	.24

Mather School: Proportion of the school examined .04; relative rank .0156.

Mayhew School: Proportion of the school examined .07; relative rank .0168.

Examination in Geography.

OTIS SCHOOL.

Total number of scholars 467; No. examined 27; average age of those examined 13 yrs 2 mos.

No. of the question.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor answ.
1	23	4	2	37	0	0	
2	15	12	4	42	0	0	
3	15	11	3	28	0	1	
4	3	23	2	27	0	1	
5	7	17	24	66	0	3	
6	20	5	0	16	0	2	
7	18	2	0	13	0	7	
8	9	7	8	23	0	11	
9	3	5	1	5	0	19	
10	10	3	0	10	0	14	
11	6	6	0	6	0	15	
12	4	0	2	1	2	23	
13	9	0	0	8	0	18	
14	4	2	0	4	0	21	
15	1	6	0	14	0	20	
16	0	4	0	4	0	23	
17	2	1	0	2	0	24	
18	0	0	0	0	0	27	
19	0	2	0	0	0	25	
20	0	3	0	0	0	24	
21	0	0	0	0	0	27	
22	2	0	0	0	0	25	
23	0	2	0	0	0	25	
24	2	0	0	1	0	25	
25	0	1	0	0	0	26	
26	0	0	0	0	0	27	
27	1	1	0	2	0	25	
28	0	0	0	0	0	27	
29	0	0	0	0	0	27	
30	0	0	0	0	0	27	
31	0	0	0	0	0	27	
	154	117	46	309	2	566	.18

Proportion of the school examined .06; relative rank .0108.

PHILLIPS SCHOOL.

Total number of scholars 440; No. examined 22; average age of those examined 12 yrs 8 mos.

Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.
14	8	10	13	0	0	
16	6	19	33	1	0	
8	13	4	6	0	1	
4	15	4	10	0	3	
11	7	26	50	0	4	
13	9	0	7	1	0	
13	4	1	9	0	5	
7	7	4	19	0	8	
8	6	1	6	0	8	
18	4	0	4	0	0	
6	14	0	7	0	2	
11	0	4	13	3	11	
15	4	0	7	0	3	
10	8	0	15	0	4	
7	7	7	49	0	8	
0	4	1	9	0	18	
8	9	0	5	0	5	
1	9	0	9	0	12	
7	5	1	6	0	10	
5	11	0	4	0	6	
0	6	2	20	0	16	
11	6	0	8	0	5	
0	11	2	10	0	11	
7	5	2	10	0	10	
5	4	2	6	0	13	
8	0	0	7	0	14	
0	16	2	11	0	6	
4	8	0	8	0	10	
6	6	11	5	0	10	
2	4	1	5	0	16	
0	6	0	0	0	16	
225	222	104	371	5	235	.33

Proportion of the school examined .05; relative rank .0165.

Examination in Geography.

SMITH SCHOOL.

Total number of scholars 163; No. examined 8.

No. of the question.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.
1	6	2	5	62	0	0	
2	7	1	9	78	1	0	
3	1	7	0	17	0	0	
4	1	7	0	15	0	0	
5	0	1	1	6	0	7	
6	2	2	0	4	1	4	
7	4	0	0	4	0	4	
8	0	2	0	8	0	6	
9	0	1	0	1	0	7	
10	0	1	0	1	0	7	
11	0	2	0	1	0	6	
12	1	1	1	2	2	6	
13	0	1	0	1	0	7	
14	1	2	2	4	0	5	
15	0	1	0	3	0	7	
16	0	1	0	0	0	7	
17	0	0	0	0	0	8	
18	0	1	0	1	0	7	
19	0	1	0	1	0	7	
20	0	1	0	1	0	7	
21	0	0	0	0	0	8	
22	1	0	0	1	0	7	
23	0	0	0	0	0	8	
24	0	0	0	0	0	8	
25	0	0	0	0	0	8	
26	2	2	0	4	1	4	
27	0	1	0	2	0	7	
28	1	0	1	2	0	7	
29	0	0	0	0	0	8	
30	0	0	0	0	0	8	
31	0	0	0	0	0	8	
	27	38	19	219	5	183	.11

Proportion of the school examined .05 ; relative rank .0055.

WELLS SCHOOL.

Total number of scholars 307; No. examined 29 ; average age of those examined 13 yrs 3 mos.

Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.
26	3	4	63	0	0	
28	1	7	61	1	0	
14	15	5	27	0	0	
11	16	1	21	0	2	
8	19	19	141	0	2	
17	10	0	13	0	2	
29	0	0	17	0	0	
5	5	1	22	0	19	
6	10	1	8	0	13	
27	2	0	19	0	0	
19	10	0	24	0	0	
11	0	0	8	0	18	
27	0	0	15	0	2	
25	2	0	24	0	2	
16	10	9	57	0	3	
1	7	0	9	0	21	
9	11	0	11	0	9	
1	10	0	7	0	18	
3	9	0	7	0	17	
13	9	0	15	0	7	
5	6	5	38	0	18	
17	8	0	17	0	4	
3	12	3	24	0	14	
8	10	1	24	0	11	
2	13	0	10	0	14	
14	3	0	9	0	12	
5	19	2	49	0	5	
14	7	0	24	0	8	
8	12	10	22	0	9	
6	9	4	19	0	14	
6	6	0	0	0	17	
384	254	72	805	1	261	.43

Proportion of the school examined .09; relative rank .0387.

Examination in Geography.

WINTHROP SCHOOL.

Total number of scholars 507; No. examined 28; average age of those examined 14 yrs. 6½ mo.

DUDLEY SCHOOL—Roxbury.

Total number of scholars 350; No. examined 29; average age of those examined 14 yrs. 6 mos.

	WINTHROP SCHOOL.							DUDLEY SCHOOL—Roxbury.						
No. of the question.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.
1	26	2	8	91	0	0		26	3	3	68	0	0	
2	17	11	7	122	0	0		24	5	15	156	0	0	
3	19	8	3	50	0	1		12	17	0	40	0	0	
4	12	16	3	50	0	0		2	27	0	32	0	0	
5	23	4	18	176	0	1		11	18	12	142	0	0	
6	22	5	0	25	0	1		24	5	0	12	0	0	
7	15	11	0	22	0	2		26	0	0	11	0	3	
8	8	17	3	65	0	3		2	22	0	49	0	5	
9	11	11	0	22	0	6		11	16	14	17	0	2	
10	25	3	0	23	0	0		26	3	0	13	0	0	
11	12	13	0	24	0	3		7	19	0	14	0	3	
12	14	4	7	26	0	10		10	8	0	10	0	11	
13	25	1	0	22	0	2		22	7	0	17	0	0	
14	23	5	1	53	0	0		20	9	0	32	0	0	
15	28	0	22	256	0	0		25	4	4	84	0	0	
16	4	11	2	22	0	13		0	29	0	18	0	0	
17	15	9	0	20	0	4		19	8	0	15	0	2	
18	1	8	1	22	0	19		12	9	0	13	0	8	
19	6	16	0	20	0	6		10	14	0	21	0	5	
20	15	11	0	20	0	2		5	24	0	16	0	0	
21	4	6	10	72	0	18		7	11	2	30	0	11	
22	16	10	0	23	0	2		28	1	0	18	0	0	
23	6	14	1	85	0	8		11	12	1	27	0	6	
24	10	15	4	83	0	3		14	11	0	40	0	4	
25	6	12	0	21	0	10		13	12	0	16	0	4	
26	10	3	1	13	0	15		21	2	0	14	0	6	
27	5	14	6	77	0	9		21	7	0	73	0	1	
28	8	7	0	28	0	13		24	4	0	36	0	1	
29	0	15	1	33	0	13		28	0	0	55	0	1	
30	13	3	2	42	0	12		20	3	0	22	0	6	
31	1	8	0	0	0	19		12	14	0	0	0	3	
	400	273	100	1608	0	195	.46	493	324	51	1111	0	82	.55

Winthrop: Proportion of the school examined .06; relative rank .0276.

Dudley: Proportion of the school examined .08; relative rank .0440.

WORDS TO BE DEFINED. TABLE III.

1. Monotony.
2. Convocation.
3. Bifurcation.
4. Panegyric.
5. Vicegerent.
6. Esplanade.
7. Preternatural.
8. Forum.
9. Evanescence.
10. Importunate.
11. Infatuated.
12. Kirk.
13. Connoisseur.
14. Dormant.
15. Aërial.
16. Sphinx.
17. Rosemary.
18. Thanatopsis.
19. Monody.
20. Anthology.
21. Pother.
22. Misnomer.
23. Zoönomia.
24. Maniacal.
25. Hallucination.
26. Machiavelli.
27. Madrigals.
28. Hades.

NOTE. There are two or three of these words, as Thanatopsis, Zoönamia, &c., which, *being in the reading lessons*, the scholars would meet with, *and not being in the Dictionary*, they would not be likely to understand unless the masters taught them their meaning. They are, therefore, a better test than words which may be found in the dictionary, of the endeavors of the masters to secure on the part of the children, an understanding of what they read. It is so obvious, as hardly to need the authority of the best instructors and of all good writers on Education, that the habit of reading without understanding, and without knowing whether one understands or not, is easily formed and confirmed, and is most injurious: while the pupil *who never passes a word without knowing whether he understands it*, and inquiring into its meaning if he does not, has acquired a habit of mind, which will be almost sufficient, of itself, to insure constant improvement. The difference amongst our Schools, in this respect, is very great. Thus, in the Bowdoin School, taught by Mr. Andrews, *thirty-seven girls out of forty-three* defined "Thanatopsis" correctly; and in some other Schools, not one.

Words to be defined.

ADAMS SCHOOL.

Total number of scholars 418; No. examined 35; average age of those examined 12 yrs 11 mo.

No. of the question.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.
1	18	12	1	22	3	5	
2	26	3	1	25	0	6	
3	8	18	0	24	1	9	
4	2	12	1	17	1	21	
5	9	17	1	22	0	9	
6	2	20	0	22	0	13	
7	13	15	0	22	0	7	
8	9	18	2	24	0	8	
9	0	17	0	16	0	18	
10	7	13	1	23	2	15	
11	4	16	0	19	0	15	
12	35	0	1	29	0	0	
13	7	22	3	24	0	6	
14	21	6	0	23	0	8	
15	28	1	1	23	0	6	
16	9	15	1	23	1	11	
17	25	4	1	22	1	6	
18	21	5	3	25	0	9	
19	0	23	2	25	1	12	
20	4	11	0	22	0	20	
21	23	5	0	24	0	7	
22	13	12	2	23	0	10	
23	0	21	1	22	0	14	
24	11	3	1	10	2	21	
25	13	1	0	1	0	21	
26	2	15	2	16	0	18	
27	0	12	1	11	0	23	
28	23	0	0	18	0	12	
	333	317	26	577	12	330	.34

Proportion of the school examined .08; relative rank .0272.

BOYLSTON SCHOOL.

Total number of scholars 534; No. examined 36; average age of those examined 14 yrs.

No. of the question.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.
1	15	20	0	24	0	1	
2	15	17	0	22	0	4	
3	0	34	0	25	0	2	
4	20	10	1	20	0	6	
5	2	30	1	24	0	4	
6	4	24	1	22	0	8	
7	10	25	1	28	0	1	
8	0	27	2	21	0	9	
9	19	7	0	19	0	10	
10	25	3	1	19	0	8	
11	6	26	2	22	0	4	
12	31	4	0	22	0	1	
13	22	13	0	25	1	1	
14	23	10	0	27	0	3	
15	35	0	0	24	0	1	
16	12	23	1	26	8	1	
17	35	0	0	24	0	1	
18	31	5	0	24	0	0	
19	0	34	0	25	0	2	
20	1	25	0	17	0	10	
21	27	1	2	21	0	8	
22	3	22	2	20	0	11	
23	0	25	2	18	0	11	
24	22	4	2	20	0	10	
25	21	4	0	4	0	11	
26	0	17	0	14	0	19	
27	0	13	1	12	0	23	
28	23	3	1	16	0	10	
	402	426	20	585	9	180	.40

Proportion of the school examined .07; relative rank .0280.

Words to be defined.

BOWDOIN SCHOOL.

Total number of scholars 508; No. examined 43; average age of those examined 14 yrs. 8 mo.

No. of the question.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.
1	39	4	0	18	0	0	
2	27	14	1	21	0	2	
3	4	30	0	22	0	9	
4	25	2	0	23	0	16	
5	10	26	1	22	0	7	
6	5	36	0	23	0	2	
7	20	19	0	26	0	4	
8	36	7	0	20	1	0	
9	16	5	0	24	1	22	
10	20	19	0	28	0	4	
11	9	27	0	25	0	7	
12	42	1	1	23	0	0	
13	17	22	0	16	3	4	
14	34	8	0	24	1	1	
15	33	9	0	21	0	1	
16	8	23	0	22	0	12	
17	41	1	0	27	0	1	
18	37	5	0	25	2	1	
19	5	30	0	19	0	8	
20	3	5	0	21	0	35	
21	37	2	0	20	0	4	
22	19	22	0	21	0	2	
23	0	11	0	26	0	32	
24	24	0	0	20	0	19	
25	22	0	0	0	0	21	
26	0	16	0	18	0	27	
27	0	16	0	13	0	27	
28	23	5	0	23	0	15	
	556	365	3	591	8	283	.46

Proportion of the school examined .08; relative rank .0368.

BRIMMER SCHOOL.

Total number of scholars 513; No. examined 56; average age of those examined 13 yrs.

Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.
3	28	0	20	0	25	
9	6	1	7	0	41	
0	31	1	22	0	25	
0	7	0	7	0	49	
18	18	5	21	0	20	
3	31	2	23	0	22	
5	6	0	8	0	45	
11	8	0	12	0	37	
0	12	0	9	0	44	
1	14	0	10	0	41	
4	14	1	13	0	38	
20	12	0	20	0	24	
2	8	1	8	0	46	
11	18	1	20	0	27	
13	10	0	14	1	33	
16	18	5	19	0	22	
18	8	1	16	0	30	
23	6	0	20	0	27	
0	4	0	3	0	52	
2	6	0	6	0	48	
31	4	0	20	0	21	
32	9	0	33	0	15	
0	18	0	18	0	38	
4	0	0	5	0	52	
5	0	0	0	0	51	
0	6	0	4	0	50	
0	4	0	4	0	52	
4	4	0	7	0	48	
235	310	18	369	1	1023	.15

Proportion of the school examined .11; relative rank .0165.

Words to be defined.

ELIOT SCHOOL.

Total number of scholars 456; No. examined 21; average age of those examined 12 yrs. 8 mo.

No. of the question.	Correct answers..	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.
1	14	7	0	18	0	0	
2	18	2	0	19	1	1	
3	0	21	0	15	0	0	
4	21	0	0	20	0	0	
5	21	0	0	16	0	0	
6	4	17	0	16	0	0	
7	14	4	0	14	0	3	
8	8	10	0	15	0	3	
9	11	0	0	10	0	10	
10	14	2	0	14	0	5	
11	7	10	1	17	0	4	
12	21	0	5	19	0	0	
13	12	1	0	12	1	8	
14	4	11	0	14	0	6	
15	21	0	0	18	1	0	
16	19	0	0	14	0	2	
17	16	1	0	14	0	4	
18	17	0	0	15	0	4	
19	3	7	0	8	0	11	
20	0	9	0	6	0	12	
21	19	2	0	17	0	0	
22	20	1	0	19	1	0	
23	12	9	0	8	0	0	
24	6	3	1	7	0	12	
25	6	1	0	1	0	14	
26	5	2	1	6	0	14	
27	0	7	1	5	0	14	
28	9	0	0	6	0	12	
	322	127	9	363	4	139	.55

Proportion of the school examined .05; relative rank .0275.

ENDICOTT SCHOOL.

Total number of scholars 478: No. examined 34; average age of those examined 13 yrs.

Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.
15	3	0	11	0	16	
7	3	0	6	1	24	
0	0	0	0	0	34	
0	0	0	0	0	34	
1	1	0	1	0	32	
0	5	0	3	0	29	
9	0	0	8	0	25	
2	0	0	2	0	32	
0	1	0	0	0	33	
2	2	0	3	0	30	
1	4	0	2	0	29	
14	0	1	10	0	20	
0	0	0	1	0	34	
8	5	0	10	0	21	
10	2	1	9	0	22	
3	2	1	4	0	29	
12	0	0	8	0	22	
2	1	1	1	0	31	
0	0	0	0	0	34	
0	0	0	0	0	34	
6	0	0	4	0	28	
1	6	0	4	0	27	
0	1	0	1	0	33	
0	1	0	1	0	33	
0	1	0	0	0	33	
0	2	0	2	0	32	
0	1	0	1	0	33	
0	1	0	0	0	33	
93	42	4	92	1	817	.10

Proportion of the school examined .07; relative rank .0070.

Words to be defined.

FRANKLIN SCHOOL.

Total number of scholars 418; No. examined 19; average age of those examined 14 yrs. 6 mo.

No. of the question.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.
1	7	8	0	6	0	4	
2	3	14	0	7	0	2	
3	0	3	0	0	0	16	
4	0	4	0	1	0	15	
5	2	11	0	3	0	6	
6	0	17	1	5	0	2	
7	2	8	0	3	0	9	
8	1	9	0	2	0	9	
9	1	11	0	6	0	7	
10	7	8	2	6	0	4	
11	3	9	0	4	0	7	
12	16	1	0	9	0	2	
13	2	11	1	3	0	6	
14	10	5	0	3	0	4	
15	8	4	0	2	0	7	
16	6	9	3	4	0	4	
17	15	2	0	9	0	2	
18	2	14	0	7	0	3	
19	5	8	0	7	0	6	
20	0	2	0	7	0	17	
21	10	1	1	0	0	8	
22	6	6	0	4	0	7	
23	0	3	0	2	0	16	
24	4	0	0	2	0	15	
25	3	0	0	0	0	16	
26	2	2	0	3	0	15	
27	1	4	0	3	0	14	
28	1	1	0	1	0	17	
	117	175	8	109	0	240	.22

Proportion of the school examined .05; relative rank .0110.

HAWES SCHOOL.

Total number of scholars 408; No. examined 17; average age of those examined 13 yrs 9 mos,

Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.
8	3	0	5	0	6	
2	5	0	4	0	10	
0	10	0	4	0	7	
1	6	0	5	0	10	
2	8	0	5	0	7	
1	10	0	3	0	6	
7	4	0	4	0	6	
1	3	0	1	0	13	
0	3	0	2	0	14	
3	10	3	3	0	4	
1	10	0	6	0	6	
7	1	0	3	0	9	
2	6	0	3	0	9	
7	1	0	2	0	9	
6	7	1	5	0	4	
1	11	0	5	0	5	
12	3	0	8	0	2	
6	6	0	5	0	5	
5	8	3	5	1	4	
3	5	1	5	0	9	
6	2	0	4	0	9	
3	13	1	7	0	1	
0	8	0	4	0	9	
7	0	0	4	0	10	
3	3	1	5	0	11	
0	5	0	1	0	12	
1	6	0	2	0	10	
1	3	0	0	0	13	
96	160	10	110	1	220	.20

Proportion of the school examined .04; relative rank .0080.

Words to be defined.

HANCOCK SCHOOL.

Total number of scholars 509; No. examined 45; average age of those examined 13 yrs. 9 mo.

No. of the question.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.
1	14	10	0	10	0	21	
2	1	2	0	0	0	42	
3	0	2	0	2	0	43	
4	0	2	0	2	0	43	
5	0	2	0	2	0	43	
6	0	1	0	1	0	44	
7	2	0	0	4	1	43	
8	12	10	4	12	0	23	
9	1	1	0	0	0	43	
10	9	3	2	6	0	33	
11	2	7	0	4	0	36	
12	31	3	0	16	0	11	
13	1	2	0	1	0	42	
14	12	10	0	9	1	23	
15	15	7	0	11	0	23	
16	0	0	0	0	0	45	
17	24	1	0	6	0	20	
18	10	3	0	2	0	32	
19	0	3	0	3	0	42	
20	0	0	0	0	0	45	
21	0	0	0	0	0	45	
22	33	10	0	15	0	2	
23	0	2	0	1	0	43	
24	3	0	0	1	0	42	
25	3	0	0	0	0	42	
26	0	1	0	0	0	44	
27	0	2	0	0	0	43	
28	6	0	0	2	0	39	
	179	84	6	110	2	997	.14

Proportion of the school examined .09; relative rank .0126.

JOHNSON SCHOOL.

Total number of scholars 547; No. examined 50; average age of those examined 13 yrs. 6½ mo.

Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.
14	5	0	8	0	31	
6	4	0	7	0	40	
1	10	0	7	0	39	
4	5	0	7	0	41	
7	12	0	10	0	31	
1	11	0	6	0	38	
7	16	0	9	0	27	
1	3	0	7	0	46	
5	4	0	7	0	41	
5	11	0	13	0	34	
5	14	0	21	0	31	
28	7	0	12	0	15	
2	22	0	12	0	26	
14	13	0	11	0	23	
12	11	0	11	0	27	
4	13	0	10	0	33	
18	5	0	10	0	27	
30	3	0	15	0	17	
0	3	0	9	0	47	
1	1	0	6	0	48	
8	0	0	7	0	42	
5	8	0	10	0	37	
1	12	0	10	0	37	
7	2	0	6	0	41	
6	4	0	1	0	40	
0	3	0	3	0	47	
1	3	1	4	0	46	
4	5	0	6	0	41	
197	210	1	245	0	993	.14

Proportion of the school examined .09; relative rank .0126.

Words to be defined.

MATHER SCHOOL.

Total number of scholars 485; No. examined 18; average age of those examined 14 yrs 6 mos.

No. of the question.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors iu punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.
1	12	6	0	13	0	0	
2	11	2	0	8	0	5	
3	2	4	0	6	0	12	
4	5	2	0	4	0	11	
5	7	7	0	13	0	4	
6	0	8	0	6	0	10	
7	7	3	0	8	0	8	
8	4	4	0	8	0	10	
9	4	2	0	4	0	12	
10	5	5	0	7	0	8	
11	4	6	0	7	0	8	
12	9	2	0	8	0	7	
13	3	4	0	6	0	11	
14	8	5	0	10	0	5	
15	9	6	0	11	0	3	
16	1	6	0	6	0	11	
17	13	3	0	12	0	2	
18	0	5	0	4	0	13	
19	0	3	0	2	0	15	
20	0	3	0	3	0	15	
21	7	0	0	6	0	11	
22	3	7	0	7	0	8	
23	0	4	0	3	0	14	
24	3	1	0	3	0	14	
25	2	1	0	0	0	15	
26	0	4	0	5	0	14	
27	1	5	0	4	0	12	
28	14	2	0	11	0	2	
	134	110	0	185	0	260	.27

Proportion of the school examined .04; relative rank .0108.

MAYHEW SCHOOL.

Total number of scholars 368; No. examined 20; average age of those examined 13 yrs 6 mos..

Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.
2	11	0	10	0	7	
6	0	0	5	0	14	
0	6	0	3	0	14	
0	0	0	0	0	20	
4	2	0	4	0	14	
0	1	0	1	0	19	
5	1	0	4	0	14	
1	8	3	6	0	11	
0	4	0	6	0	16	
0	8	0	3	0	12	
0	4	0	2	0	16	
8	2	0	8	0	10	
2	4	0	3	0	14	
1	11	0	6	0	8	
5	5	0	8	0	10	
13	0	0	9	0	7	
12	1	0	9	0	7	
5	1	0	4	0	14	
0	8	0	6	1	12	
0	0	0	0	0	20	
15	0	0	14	0	5	
1	10	0	9	0	9	
0	4	0	4	0	16	
4	1	0	4	0	15	
2	0	0	0	0	18	
0	2	0	2	0	18	
0	1	0	1	0	19	
9	0	0	5	0	11	
95	95	3	136	1	370	.17

Proportion of the school examined .05; relative rank .0085.

Words to be defined.

OTIS SCHOOL.

Total number of scholars 467; No. examined 24; average age of those examined 13 yrs 2 mo.

No. of the question.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.
1	16	2	1	11	0	6	
2	0	0	0	0	0	24	
3	2	0	0	1	1	22	
4	0	0	0	0	0	24	
5	2	5	0	5	0	17	
6	0	1	0	1	0	23	
7	1	2	0	0	0	21	
8	0	2	0	2	0	22	
9	2	0	0	0	1	22	
10	0	4	0	2	0	20	
11	0	3	0	2	0	21	
12	13	0	0	10	0	11	
13	0	2	0	1	0	22	
14	4	2	0	2	0	18	
15	16	1	0	11	1	7	
16	3	2	1	2	0	19	
17	5	0	0	2	0	19	
18	5	1	1	4	0	18	
19	0	3	0	4	0	21	
20	0	1	0	1	0	23	
21	3	0	0	2	0	21	
22	3	0	0	3	0	21	
23	0	0	0	0	0	24	
24	0	0	0	0	0	24	
25	0	0	0	0	0	24	
26	0	1	0	1	0	23	
27	0	1	0	1	0	23	
28	1	0	0	1	0	23	
	76	33	3	69	3	563	.11

Proportion of the school examined .05; relative rank .0055.

PHILLIPS SCHOOL.

Total number of scholars 440; No. examined 35; average age of those examined 12 yrs 8 mo.

Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.
3	6	0	15	0	26	
0	4	1	11	0	31	
3	9	0	10	0	23	
0	0	0	11	0	35	
1	4	0	10	0	30	
1	6	2	12	1	28	
3	2	0	10	0	30	
3	2	0	8	0	30	
0	4	0	9	0	31	
2	2	1	11	0	31	
3	0	0	8	0	32	
13	1	1	14	0	21	
1	4	0	13	0	30	
3	7	0	12	0	25	
6	5	0	10	0	24	
5	10	0	14	0	20	
13	2	1	13	0	20	
0	4	1	12	0	31	
0	5	0	11	0	30	
0	1	0	9	0	34	
9	1	1	9	0	25	
3	4	2	11	0	28	
0	7	0	14	0	28	
3	2	0	9	0	30	
3	2	0	0	0	30	
0	1	0	8	0	34	
0	2	0	8	0	33	
0	2	0	12	0	33	
78	99	10	294	1	803	.08

Proportion of the school examined .08; relative rank .0064.

Words to be defined.

SMITH SCHOOL.

Total number of scholars 163; No. examined 6.

No. of the question.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.
1	0	4	0	4	0	2	
2	0	0	0	0	0	6	
3	0	4	1	3	0	2	
4	0	0	0	0	0	6	
5	0	2	0	3	0	4	
6	0	4	0	4	0	2	
7	0	0	0	0	0	6	
8	0	0	0	0	0	6	
9	0	0	0	0	0	6	
10	0	0	0	0	0	6	
11	0	0	0	0	0	6	
12	0	0	0	0	0	6	
13	0	0	0	0	0	6	
14	0	1	0	1	0	5	
15	0	1	0	1	0	5	
16	0	0	0	0	0	6	
17	0	0	0	0	0	6	
18	0	0	0	0	0	6	
19	0	0	0	0	0	6	
20	0	0	0	0	0	6	
21	0	0	0	0	0	6	
22	0	0	0	0	0	6	
23	0	0	0	0	0	6	
24	0	0	0	0	0	6	
25	0	0	0	0	0	6	
26	0	0	0	0	0	6	
27	0	0	0	0	0	6	
28	0	0	0	0	0	6	
	0	16	1	16	0	152	.00

Proportion of the school examined .04; relative rank .0000.

WELLS SCHOOL.

Total number of scholars 307; No. examined 29; average age of those examined 13 yrs 3 mo.

Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.
22	6	0	20	0	1	
22	3	0	15	0	4	
2	8	0	20	0	19	
2	5	0	20	0	22	
6	20	1	20	1	3	
0	27	0	16	0	2	
11	16	0	18	0	2	
5	7	0	18	0	17	
0	15	0	17	0	14	
10	13	0	16	0	6	
9	2	0	17	0	18	
22	2	0	20	0	5	
25	3	0	22	1	1	
28	1	0	16	0	0	
27	1	0	20	0	1	
8	14	0	18	0	7	
28	1	0	20	0	0	
1	9	0	19	0	19	
0	19	0	18	0	10	
0	4	0	19	0	25	
23	1	1	18	0	5	
10	15	2	20	0	4	
0	17	0	18	0	12	
22	3	0	20	0	4	
21	3	0	0	0	5	
0	8	0	14	0	21	
0	11	0	10	0	18	
5	0	0	17	0	24	
309	234	4	486	2	269	.38

Proportion of the school examined .09; relative rank .0342.

Words to be defined.

WINTHROP SCHOOL.

Total number of scholars 507; No. examined 28; average age of those examined 14 ys. 6½ mo.

No. of the question.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.
1	16	9	0	24	0	3	
2	20	4	2	21	0	4	
3	3	7	0	12	0	18	
4	7	10	0	17	0	11	
5	6	17	2	19	0	5	
6	0	18	5	21	0	10	
7	4	15	1	19	0	9	
8	11	2	0	16	0	15	
9	3	14	0	17	0	11	
10	6	14	3	19	0	8	
11	4	16	0	23	0	8	
12	27	0	0	22	0	1	
13	16	5	1	20	0	7	
14	21	2	0	20	0	5	
15	20	2	1	20	0	6	
16	14	5	0	22	0	9	
17	19	0	0	22	1	9	
18	13	12	0	19	0	3	
19	7	8	0	18	0	13	
20	10	2	1	15	1	16	
21	20	0	0	22	0	8	
22	5	13	0	19	1	10	
23	0	18	0	18	0	10	
24	17	1	0	17	1	10	
25	16	1	0	0	0	11	
26	0	10	0	10	0	18	
27	3	6	0	6	0	19	
28	1	11	0	4	0	16	
	289	222	16	482	4	273	.37

Proportion of the school examined .06; relative rank .0222.

DUDLEY SCHOOL—ROXBURY.

Total number of scholars 350; No. examined 29; average age of those examined, 14 yrs. 6 mo.

Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.
29	0	0	11	0	0	
29	0	1	13	0	0	
0	1	0	16	0	28	
27	0	0	15	0	2	
9	17	4	4	0	3	
0	0	0	17	0	29	
21	7	0	16	0	1	
17	12	0	13	0	0	
19	6	0	13	0	4	
9	18	0	12	0	2	
11	13	0	14	0	5	
28	1	0	10	0	0	
9	3	0	16	0	17	
27	2	0	15	0	0	
29	0	0	11	0	0	
16	12	0	12	0	1	
27	0	0	14	0	2	
6	4	0	13	1	19	
0	8	0	17	0	21	
0	3	0	16	0	26	
19	0	0	16	0	10	
3	4	0	14	0	22	
0	4	0	15	0	25	
12	0	0	16	0	17	
6	1	0	5	0	22	
3	1	0	16	0	25	
0	11	0	17	0	18	
11	5	0	17	0	13	
367	133	5	384	1	312	.45

Proportion of the school examined .08; relative rank .0360.

GRAMMAR. TABLE IV.

1. Parse the following sentence, and write a full account of each word: — Withhold not good from them to whom it is due.

2. Parse the following: —The wages of sin is death.

3. Write a short sentence, containing an active transitive verb, and an objective case.

4. A sentence containing a neuter verb, a relative pronoun, and an adjective in the comparative degree.

5. A sentence, with the verb *to comfort*, in the passive voice, potential mode, perfect tense, 2nd person plural.

6. In what cases do we use *a* instead of *an*?

7. What is the difference between an active and neuter verb?

8. The difference between ordinal and numeral adjectives?

9. What is an allegory?

10. Punctuate the following sentences; correct all the errors you may find in them; and write them out grammatically if you think them to be ungrammatical:

Your brother was there and he said to my sister and i i am tired and must go and lay down to rest me and when he was laying down we tried to lie a vail over his face.

11. *I shall come to see you this afternoon unless it rains.*

12. *Vain man thou presumest too much neither the lion nor the tiger will bow their necks to thee.*

13. *To be or not to be that is the question.*

14. *The propriety of such rules are doubtful.*

Examination in Grammar.

ADAMS SCHOOL.

Total number of scholars 418; No. examined 20; average age of those examined 12 yrs. 11 months.

No. of the question.	Correct answers.	Incorrect answers.	Number of errors.	Errors in spelling.	Errors in punctuation.	Not answered.	Per cent. of cor. answ.
1	4	16	21	33	192	0	
2	6	14	17	30	192	0	
3	16	4	5	2	12	0	
4	9	9	10	1	15	2	
5	14	4	5	1	18	2	
6	18	2	2	5	17	0	
7	18	0	0	8	28	2	
8	9	7	8	4	21	4	
9	15	1	1	6	18	4	
10	8	10	20	5	30	2	
11	14	2	2	0	13	4	
12	11	5	5	2	19	4	
13	13	2	2	0	16	5	
14	16	0	0	0	12	4	
	171	76	98	97	603	33	.61

Proportion of the school examined .05; relative rank .0305.

BOYLSTON SCHOOL.

Total number of scholars 534; No. examined 34; average age of those examined 14 yrs.

Correct answers.	Incorrect answers.	Number of errors.	Errors in spelling.	Errors in punctuation.	Not answered.	Per cent. of cor. answ.
6	27	56	34	337	1	
7	26	36	30	300	1	
29	1	1	1	16	4	
15	7	8	1	19	12	
2	5	12	0	0	27	
23	5	5	8	21	6	
24	1	1	8	20	9	
8	10	10	3	5	16	
4	5	5	1	5	25	
3	22	37	5	81	9	
16	3	3	0	16	15	
8	10	11	0	22	16	
6	12	12	0	22	16	
18	2	2	0	18	14	
169	136	199	91	882	171	.36

Proportion of the school examined .06; relative rank .0216.

Examination in Grammar.

BOWDOIN SCHOOL.

Total number of scholars 508; No. examined 43; average age of those examined 14 yrs. 8 months.

No. of the question.	Correct answers.	Incorrect answers.	Number of errors.	Errors in spelling.	Errors in punctuation.	Not answered.	Per cent. of cor. answ.
1	13	30	49	14	428	0	
2	17	26	45	18	238	0	
3	40	1	1	0	16	2	
4	26	10	13	1	16	7	
5	8	21	34	0	13	14	
6	35	7	7	6	31	1	
7	38	3	3	4	51	2	
8	25	10	9	6	24	8	
9	26	12	11	22	22	5	
10	31	7	11	6	67	5	
11	20	20	20	0	18	3	
12	9	25	25	0	26	9	
13	11	24	27	0	33	8	
14	34	2	2	0	31	7	
	333	198	257	77	1014	71	.55

Proportion of the school examined .08; relative rank .0440.

BRIMMER SCHOOL.

Total number of scholars 513; No. examined 20; average age of those examined 13 yrs.

Correct answers.	Incorrect answers.	Number of errors.	Errors in spelling.	Errors in punctuation.	Not answered.	Per cent. of cor. answ.
3	13	21	23	126	4	
4	15	16	26	130	1	
16	2	3	0	2	2	
6	10	12	1	18	4	
3	5	10	0	9	12	
13	7	8	8	12	0	
17	2	1	4	26	1	
8	7	8	2	21	5	
3	2	2	1	5	15	
0	14	32	1	16	6	
2	14	14	0	5	4	
1	14	13	1	12	5	
13	2	2	0	0	5	
5	7	7	0	7	8	
94	114	149	67	389	72	.34

Proportion of the school examined .04; relative rank .0136.

Examination in Grammar.

ELIOT SCHOOL.

Total number of scholars 456; No. examined 19; average age of those examined 12 yrs. 8 months.

ENDICOTT SCHOOL.

Total number of scholars 478; No. examined 30; average age of those examined 13 yrs. 0 months.

	ELIOT SCHOOL.							ENDICOTT SCHOOL.						
No. of the question.	Correct answers.	Incorrect answers.	Number of errors.	Errors in spelling.	Errors in punctuation.	Not answered.	Per cent. of cor. answ.	Correct answers.	Incorrect answers.	Number of errors.	Errors in spelling.	Errors in punctuation.	Not answered.	Per cent. of cor. answ.
1	5	8	11	8	105	6		6	21	38	45	337	3	
2	7	7	8	7	81	5		8	21	31	24	286	1	
3	16	2	0	0	11	1		25	2	2	1	17	3	
4	7	5	5	2	11	7		7	4	5	0	10	19	
5	3	2	4	0	3	14		5	3	3	0	7	22	
6	4	4	3	5	8	11		11	7	7	1	20	12	
7	15	2	2	3	28	2		25	0	0	0	34	5	
8	3	3	3	2	9	13		8	3	3	0	12	19	
9	0	3	3	2	3	16		7	9	9	6	15	14	
10	2	10	20	5	36	7		10	11	20	7	45	9	
11	1	10	10	0	9	8		2	4	4	0	1	24	
12	0	7	7	0	2	12		1	12	13	0	11	17	
13	1	6	6	0	5	12		10	4	4	0	15	16	
14	6	1	1	1	7	12		11	1	1	3	11	18	
	70	70	83	35	318	126	.26	136	102	140	87	821	182	.32

Proportion of the school examined .04; relative rank .0104.

Proportion of the school examined .06; relative rank .0192.

Examination in Grammar.

FRANKLIN SCHOOL.

Total number of scholars 418; No. examined 19; average age of those examined 14 yrs. 6 months.

No. of the question.	Correct answers.	Incorrect answers.	Number of errors.	Errors in spelling.	Errors in punctuation.	Not answered.	Per cent. of cor. answ.
1	6	11	21	14	147	2	
2	5	13	16	19	164	1	
3	11	7	7	0	9	1	
4	9	2	2	1	9	8	
5	3	5	9	0	4	11	
6	16	2	4	6	15	1	
7	17	0	0	5	24	2	
8	8	5	5	2	15	6	
9	13	4	4	5	18	2	
10	9	6	10	2	14	4	
11	6	4	4	0	10	9	
12	1	10	10	2	10	8	
13	9	5	5	0	24	5	
14	12	2	2	0	15	5	
	125	76	99	56	478	65	.47

Proportion of the school examined .05; relative rank .0235.

HAWES SCHOOL.

Total number of scholars 408; No. examined 17; average age of those examined 13 yrs. months.

Correct answers.	Incorrect answers.	Number of errors.	Errors in spelling.	Errors in punctuation.	Not answered.	Per cent. of cor. answ.
6	7	9	7	67	4	
3	14	24	9	109	0	
17	0	0	1	6	0	
11	4	5	0	9	2	
4	6	12	1	4	7	
16	1	1	0	9	0	
16	1	1	1	20	0	
4	8	8	0	12	5	
5	7	7	3	6	5	
11	5	5	2	24	1	
9	4	4	0	4	4	
5	8	8	1	11	4	
8	6	6	0	20	3	
12	2	2	1	9	3	
127	73	92	26	310	38	.53

Proportion of the school examined .04; relative rank .0212.

Examination in Grammar.

HANCOCK SCHOOL.

Total number of scholars 509; No. examined 45; average age of those examined 13 yrs. 9 months.

JOHNSON SCHOOL.

Total number of scholars 547; No. examined 49; avearage age of those examined 13 yrs. 6½ months.

	HANCOCK SCHOOL.							JOHNSON SCHOOL.						
No. of the question.	Correct answers.	Incorrect answers.	Number of errors.	Errors in spelling.	Errors in punctuation.	Not answered.	Per cent. of correct ans.	Correct answers.	Incorrect answers.	Number of errors.	Errors in spelling.	Errors in punctuation.	Not answered.	Per cent. of correct ans.
1	17	10	13	10	96	18		8	27	53	12	297	14	
2	16	26	37	19	140	3		14	26	36	18	169	9	
3	39	3	3	0	8	3		34	1	1	0	16	14	
4	24	4	4	0	7	17		16	7	8	1	18	26	
5	1	5	7	0	0	39		13	4	4	0	9	32	
6	22	7	8	3	4	16		35	9	11	3	32	5	
7	31	2	2	4	26	12		39	2	2	2	28	8	
8	1	10	10	3	3	34		14	5	5	0	13	30	
9	2	0	0	0	0	43		41	1	1	0	15	7	
10	16	12	19	6	49	17		18	15	25	7	34	16	
11	14	8	8	0	11	28		15	9	9	0	8	25	
12	0	16	16	0	6	29		7	26	26	0	12	16	
13	9	5	5	0	10	31		29	1	1	0	44	19	
14	11	4	4	1	12	30		32	1	1	0	1	16	
	203	112	136	46	372	315	.32	315	134	183	43	696	237	.46

Proportion of the school examined .09; relative rank .0288.

Proportion of the school examined .09; relative rank .0414.

Examination in Grammar.

MATHER SCHOOL.

Total number of scholars 485; No. examined 18; average age of those examined 14 yrs. 6 months.

No. of the question.	Correct answers.	Incorrect answers.	Number of errors.	Errors in spelling.	Errors in punctuation.	Not answered.	Per cent. of cor. answ.
1	4	6	17	0	107	8	
2	10	8	12	3	142	0	
3	13	2	0	0	12	3	
4	8	7	9	2	12	3	
5	2	9	16	0	7	7	
6	15	2	2	3	25	1	
7	17	1	1	6	29	0	
8	11	3	3	4	11	4	
9	5	6	6	12	7	7	
10	4	13	18	2	22	1	
11	6	8	8	0	4	4	
12	1	12	12	0	6	5	
13	13	0	0	0	6	5	
14	7	5	5	0	13	6	
	116	82	109	32	403	54	.46

Proportion of the school examined .04; relative rank .0184.

MAYHEW SCHOOL.

Total number of scholars 368; No. examined 21; average age of those examined 13 yrs. 6 months.

No. of the question.	Correct answers.	Incorrect answers.	Number of errors.	Errors in spelling.	Errors in punctuation.	Not answered.	Per cent. of cor. answ.
1	8	13	27	11	141	0	
2	2	17	25	12	135	2	
3	14	1	0	0	8	6	
4	9	3	2	0	10	9	
5	2	6	9	0	6	13	
6	6	9	10	2	14	6	
7	13	1	1	2	13	7	
8	1	4	4	1	4	16	
9	0	5	5	0	2	16	
10	4	9	19	1	11	8	
11	2	10	10	0	3	9	
12	1	10	10	0	0	10	
13	7	4	4	0	5	10	
14	6	2	2	0	5	13	
	75	94	128	29	357	125	.26

Proportion of the school examined .06; relative rank .0156.

Examination in Grammar.

OTIS SCHOOL.

Total number of scholars 467; No. examined 21; average age of those examined 13 yrs. 2 months.

No. of the question.	Correct answers.	Incorrect answers.	Number of errors.	Errors in spelling.	Errors in punctuation.	Not answered.	Per cent. of cor. answ.
1	2	9	16	10	13	10	
2	5	13	14	29	139	3	
3	5	5	6	1	10	11	
4	4	2	3	0	3	15	
5	0	1	4	0	0	20	
6	10	3	3	1	9	8	
7	9	1	1	3	8	11	
8	0	2	2	1	2	19	
9	0	1	3	2	0	20	
10	2	3	6	2	21	16	
11	0	0	0	0	0	21	
12	0	3	3	0	5	18	
13	3	0	0	0	1	18	
14	3	1	1	0	2	17	
	43	44	62	49	213	207	.15

Proportion of the school examined .04; relative rank .0060.

PHILLIPS SCHOOL.

Total number of scholars 440; No. examined 35; average age of those examined 12 yrs. 8 months.

No. of the question.	Correct answers.	Incorrect answers.	Number of errors.	Errors in spelling.	Errors in punctuation.	Not answered.	Per cent. of cor. answ.
1	4	22	46	19	129	9	
2	15	19	27	43	195	1	
3	28	6	6	1	5	1	
4	12	6	7	0	8	17	
5	4	3	6	0	1	28	
6	26	6	10	15	10	3	
7	25	5	6	13	25	5	
8	20	6	6	1	7	9	
9	1	0	0	0	0	34	
10	6	22	68	7	40	7	
11	4	15	15	0	9	16	
12	5	11	10	1	2	19	
13	15	4	4	0	4	16	
14	9	8	8	0	11	18	
	174	133	219	100	446	183	.36

Proportion of the school examined .08; relative rank .0288.

Examination in Grammar.

SMITH SCHOOL.

Total number of scholars 163; No. examined 8.

No. of the question.	Correct answers.	Incorrect answers.	Number of errors.	Errors in spelling.	Errors in punctuation.	Not answered.	Per cent. of cor. answ.
1	2	4	6	9	74	2	
2	0	1	2	0	1	7	
3	0	0	0	0	0	8	
4	0	0	0	0	0	8	
5	0	0	0	0	0	8	
6	0	0	0	0	0	8	
7	1	0	0	0	0	7	
8	0	0	0	0	0	8	
9	0	0	0	0	0	8	
10	0	0	0	0	0	8	
11	0	0	0	0	0	8	
12	0	0	0	0	0	8	
13	0	0	0	0	0	8	
14	0	0	0	0	0	8	
	3	5	8	9	75	104	.03

Proportion of the school examined .05; relative rank .0015.

WELLS SCHOOL.

Total number of scholars 307; No. examined 29; average age of those examined 13 yrs. 3 months.

No. of the question.	Correct answers.	Incorrect answers.	Number of errors.	Errors in spelling.	Errors in punctuation.	Not answered.	Per cent. of cor. answ.
1	16	13	15	29	374	0	
2	9	17	17	14	218	3	
3	28	1	1	0	15	0	
4	14	8	9	0	11	7	
5	3	7	7	0	6	19	
6	23	5	4	4	17	1	
7	25	2	2	2	23	2	
8	4	4	4	0	23	21	
9	17	2	2	1	9	10	
10	5	11	17	5	13	13	
11	4	10	10	1	21	15	
12	2	14	14	0	4	13	
13	12	5	5	0	15	12	
14	18	1	1	0	16	10	
	180	100	108	56	765	126	.44

Proportion of the school examined .09; relative rank .0396.

Examination in Grammar.

WINTHROP SCHOOL.

Total number of scholars 507; No. examined 28; average age of those examined 14 yrs. 6 months.

No of the question.	Correct answers.	Incorrect answers.	Number of errors.	Errors in spelling.	Errors in punctuation.	Not answered.	Per cent. of cor. answ.
1	7	21	38	24	388	0	
2	14	14	23	22	210	0	
3	25	3	3	1	20	0	
4	14	8	8	0	21	6	
5	4	14	30	0	5	10	
6	26	0	0	3	21	2	
7	25	0	0	1	37	3	
8	10	1	1	1	11	17	
9	4	7	7	0	8	17	
10	9	17	33	9	71	2	
11	15	7	7	0	18	6	
12	4	15	15	1	6	9	
13	9	10	12	0	7	9	
14	17	0	0	0	15	11	
	183	117	177	62	838	92	.47

Proportion of the school examined .06; relative rank .0282.

DUDLEY SCHOOL,
ROXBURY.

Total number of scholars 350; No. examined 29; average age of those examined 14 yrs. 6 mos.

Correct answers.	Incorrect answers.	Number of errors.	Errors in spelling.	Errors in punctuation.	Not answered.	Per cent. of cor. answ.
18	9	12	6	297	2	
12	17	26	7	211	0	
26	3	3	0	7	0	
23	3	3	0	14	3	
14	11	12	0	11	4	
23	5	5	0	12	1	
26	1	1	0	27	2	
9	7	7	1	10	13	
5	7	7	0	7	17	
13	12	21	0	30	4	
4	12	12	0	5	13	
6	11	11	0	12	12	
13	1	1	0	8	15	
15	0	0	0	12	14	
207	99	121	14	663	100	.51

Proportion of the school examined .08; relative rank .0408.

NATURAL PHILOSOPHY. TABLE V.

1. What is the difference between Natural History and Natural Philosophy ?

2. What is the difference between Zoology and Geology ?

3. Define the attraction of gravitation, attraction of cohesion, and chemical attraction or affinity ?

4. What do you understand by the centre of gravity of a body?

5. Define momentum.

6. What is the reason that when a coach in motion is suddenly stopped, the passengers are thrown forward ?

7. What is the rate of velocity of falling bodies ?

8. How much farther will a body fall in ten seconds than in five ?

9. What is the reason that you can cut a piece of pasteboard or hard substance, more easily by holding it close up to the rivet of a pair of scissors, than by holding it near the ends of the blades ?

10. Why is it that when you skip a stone over the surface of water it does not sink the first time it strikes the water, since it is heavier than the water ?

11. Which could you stop most easily, a railroad car weighing a ton, going at the rate of 10 miles an hour, or a car weighing 100 tons, creeping along at the rate of ¼ of a mile an hour ?

12. Explain the hydrostatic press.

13. What is specific gravity ?

14. How high can you raise water in a common pump, with a single box ?

15. How high can you raise quicksilver by the same contrivance ?

16. In building a cistern should it be made stronger at the top or at the bottom ? Why ?

17. If a grindstone should be suddenly split in pieces, while whirling rapidly around, would the fragments fall directly to the ground, or not ? Explain the principle.

18. Is a stage coach with baggage upon the top, more liable to be overset than the same coach with the baggage hung under the axletree ? If so, why ?

19. In a small boat which is in danger of being overset, should the passengers stand up, or lie down in the bottom ? Why ?

20. Which occupies the most space, a pound of water when liquid, or when in the state of ice ?

Examination in Natural Philosophy.

BOYLSTON SCHOOL.

Total number of scholars 534; No. examined 14; average age of those examined 14 years.

BOWDOIN SCHOOL.

Total number of scholars 508; No. examined 45; average age of those examined 14 years 8 months.

	BOYLSTON SCHOOL.							BOWDOIN SCHOOL.						
No. of the question.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.
1	6	4	0	18	0	4		31	10	3	44	1	4	
2	0	3	0	9	0	11		8	14	0	29	3	23	
3	0	14	0	16	0	0		0	39	3	36	11	6	
4	14	0	0	8	1	0		38	3	3	24	9	4	
5	9	2	0	4	0	3		20	23	2	15	6	2	
6	0	7	0	5	0	7		12	21	0	14	6	12	
7	3	8	0	4	0	3		27	11	0	40	4	7	
8	0	10	0	5	0	4		5	16	1	8	2	24	
9	4	5	0	4	0	5		12	12	4	14	4	21	
10	0	6	1	7	1	8		8	10	0	13	4	27	
11	9	3	0	9	0	2		9	34	0	19	8	2	
12	0	0	0	2	0	14		3	1	0	11	0	41	
13	12	0	1	7	0	2		40	2	1	12	17	3	
14	7	1	0	5	0	6		15	1	0	10	0	29	
15	0	0	0	4	0	14		0	2	0	6	2	43	
16	7	0	0	7	0	7		25	8	1	17	5	12	
17	4	8	1	7	0	2		21	10	4	17	6	14	
18	7	6	1	6	0	1		25	4	0	8	6	16	
19	3	11	0	11	1	0		15	12	0	11	12	18	
20	1	13	0	6	0	0		7	35	0	13	4	3	
	86	101	4	144	3	93	.31	321	268	22	361	110	311	.36

Proportion of the school examined .03; relative rank .0093.

Proportion of the school examined .09; relative rank .0324.

Examination in Natural Philosophy.

BRIMMER SCHOOL.

Total number of scholars 513; No. examined 35; average age of those examined 13 years.

No. of the question.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered	Per cent. of cor. answ.
1	12	15	11	39	1	8	
2	5	1	0	3	0	29	
3	0	29	9	24	5	6	
4	22	6	2	12	1	7	
5	5	6	3	5	1	24	
6	5	5	1	2	0	25	
7	0	13	0	0	0	22	
8	0	12	1	8	0	23	
9	8	7	1	7	2	20	
10	3	13	4	9	0	19	
11	8	21	0	15	0	6	
12	2	11	0	2	0	22	
13	16	0	3	7	0	19	
14	3	7	0	4	0	25	
15	2	2	0	0	0	31	
16	10	8	1	13	0	17	
17	10	13	4	11	0	12	
18	5	15	5	13	0	15	
19	5	14	8	16	3	16	
20	9	19	1	16	0	7	
	130	217	54	206	13	353	.19

Proportion of the school examined .07; relative rank .0133.

FRANKLIN SCHOOL.

Total number of scholars 418; No. examined 14; average age of those examined 14 years 6 months.

Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.
6	4	0	5	1	4	
1	0	0	5	0	13	
0	12	0	5	1	2	
11	3	0	6	2	0	
9	5	0	5	0	0	
2	2	0	2	0	10	
3	6	0	5	0	5	
0	10	0	6	0	4	
6	3	0	6	2	5	
1	1	0	3	0	12	
4	10	1	6	0	0	
6	0	0	3	1	8	
11	1	0	5	0	2	
5	3	0	4	0	6	
1	0	0	1	0	13	
8	2	0	5	0	4	
3	4	1	5	2	7	
5	5	0	4	1	4	
2	8	2	6	1	4	
7	7	0	7	0	0	
91	86	4	94	11	103	.33

Proportion of the school examined .03; relative rank .0099.

Examination in Natural Philosophy.

HAWES SCHOOL.

Total number of scholars 408; No. examined 17; average age of those examined 13 years 9 months.

No. of the question.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in Grammer.	Not answered.	Per cent. of cor. answ.
1	3	13	10	22	0	1	
2	0	1	0	0	0	16	
3	1	16	3	7	0	0	
4	9	8	2	7	0	0	
5	11	4	1	6	0	2	
6	3	4	0	1	1	10	
7	8	4	0	5	0	5	
8	2	11	0	7	0	4	
9	9	4	0	18	0	4	
10	1	13	1	6	1	3	
11	7	10	0	3	0	0	
12	6	4	1	8	0	7	
13	15	0	4	3	0	2	
14	10	0	0	6	0	7	
15	2	3	0	0	0	12	
16	5	9	4	10	0	3	
17	10	6	6	14	0	1	
18	10	4	2	10	1	3	
19	3	13	2	12	0	1	
20	5	12	0	8	0	0	
	120	139	36	153	3	81	.35

Proportion of the school examined .04; relative rank .0140.

HANCOCK SCHOOL

Total number of scholars 509; No. examined 20; average age of those examined 13 years 9 months.

Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in Grammar.	Not answered.	Per cent. of cor. answ.
5	3	0	7	0	12	
6	0	0	2	0	14	
0	19	0	2	0	1	
14	4	0	4	0	2	
17	2	0	2	1	1	
5	5	1	2	1	10	
5	1	0	4	0	14	
2	2	0	3	0	16	
0	1	0	1	0	19	
1	2	0	0	0	17	
3	13	0	5	0	4	
0	0	0	0	0	20	
8	3	1	3	1	9	
0	0	0	0	0	20	
0	0	0	0	0	20	
9	1	1	3	1	10	
1	2	0	0	0	17	
2	6	1	2	0	12	
0	5	0	5	2	15	
12	6	0	7	0	2	
90	75	4	52	6	235	.23

Proportion of the school examined .04; relative rank .0092.

Examination in Natural Philosophy.

JOHNSON SCHOOL.

Total number of scholars 547; No. examined 44; average age of those examined 13 years 6½ months.

No. of the question.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in Grammar.	Not answered.	Per cent. of cor. answ.
1	9	22	7	17	3	13	
2	5	8	2	13	1	31	
3	0	16	0	10	0	28	
4	14	3	1	8	0	27	
5	12	3	1	14	0	29	
6	4	4	1	11	0	36	
7	0	6	1	8	0	38	
8	0	23	0	19	0	21	
9	3	10	0	13	0	31	
10	0	8	0	9	0	36	
11	12	28	0	17	0	4	
12	1	0	0	13	0	43	
13	10	2	0	9	0	32	
14	6	1	0	8	0	37	
15	1	3	0	10	0	40	
16	5	11	0	10	0	28	
17	4	14	0	10	0	26	
18	1	10	0	10	0	33	
19	2	24	0	15	0	18	
20	14	28	0	19	0	2	
	103	224	13	243	4	553	.12

Proportion of the school examined .08; relative rank .0096.

MATHER SCHOOL.

Total number of scholars 485; No. examined 17; average age of those examined 14 yrs. 6 months.

Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in Grammar.	Not answered.	Per cent. of cor. answ.
2	14	2	22	0	1	
0	8	0	13	1	9	
3	12	3	17	0	2	
10	6	3	15	1	1	
8	7	2	10	0	2	
7	3	1	10	1	7	
9	3	2	17	0	5	
3	9	0	10	0	5	
5	3	7	13	1	9	
1	9	1	8	0	7	
6	8	0	12	1	3	
3	3	2	13	1	11	
8	6	2	11	3	3	
0	4	0	3	0	13	
0	2	0	2	0	15	
6	4	0	9	0	7	
2	10	1	9	0	5	
13	2	2	10	0	2	
8	5	3	11	0	4	
3	13	0	15	0	1	
97	131	31	230	9	112	.29

Proportion of the school examined .04; relative rank .0116.

Examination in Natural Philosophy.

MAYHEW SCHOOL.

Total number of scholars 368; No. examined 19; average age of those examined 13 yrs. 6 months.

No. of the question.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in Grammar.	Not answered.	Per cent. of cor. answ.
1	9	10	4	27	1	0	
2	14	5	0	26	0	0	
3	0	18	3	17	3	1	
4	15	4	2	16	1	0	
5	3	15	0	11	4	1	
6	10	6	0	13	1	3	
7	2	9	0	8	0	8	
8	7	2	0	5	0	10	
9	19	0	0	11	2	0	
10	9	3	0	8	0	7	
11	6	8	0	8	0	5	
12	0	2	0	1	0	17	
13	8	1	0	4	1	10	
14	2	4	0	4	0	13	
15	1	2	0	1	0	16	
16	5	3	0	7	0	11	
17	4	6	2	9	0	9	
18	2	7	0	5	0	10	
19	3	5	1	5	0	11	
20	0	3	0	3	0	16	
	119	113	12	189	13	148	.31

Proportion of the school examined .05; relative rank .0155.

OTIS SCHOOL.

Total number of scholars 467; No. examined 27; average age of those examined 13 yrs. 2 months.

Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in Grammar.	Not answered.	Per cent. of cor. answ.
0	27	1	22	3	0	
18	0	0	22	0	9	
0	12	1	10	1	15	
23	0	3	14	2	4	
15	4	1	16	2	8	
1	15	1	10	0	11	
22	2	0	32	1	3	
0	0	0	1	0	27	
12	2	3	7	2	13	
0	8	0	5	0	19	
7	5	0	10	0	15	
0	0	0	4	0	27	
0	0	0	4	0	27	
0	0	0	3	0	27	
0	0	0	2	0	27	
1	5	0	9	0	21	
0	3	1	2	0	24	
2	4	1	5	0	21	
1	4	0	3	1	22	
2	3	0	4	0	22	
104	94	12	185	12	342	.19

Proportion of the school examined .06; relative rank .0114.

Examination in Natural Philosophy.

WELLS SCHOOL.

Total number of scholars 307; No. examined 27; average age of those examined 13 yrs. 3 months.

No. of the question.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in Grammar.	Not answered.	Per cent. of cor. answ.
1	23	4	2	47	1	0	
2	5	3	0	5	0	19	
3	0	17	2	4	0	10	
4	25	2	0	8	0	0	
5	24	1	0	9	2	2	
6	11	3	0	5	0	13	
7	2	11	1	7	0	14	
8	0	20	0	13	0	7	
9	2	2	0	1	0	23	
10	7	2	0	3	0	18	
11	5	13	0	8	0	9	
12	3	7	2	5	0	17	
13	22	1	1	6	1	4	
14	20	1	0	6	0	6	
15	2	3	0	1	0	22	
16	16	5	2	9	1	6	
17	4	7	0	7	0	16	
18	4	9	0	11	0	14	
19	2	10	1	8	0	15	
20	13	12	0	10	0	2	
	190	133	11	173	5	217	.35

Proportion of the scholars examined .09; relative rank .0315.

DUDLEY SCHOOL,

ROXBURY.

Total number of scholars 350; No. examined 29; average age of those examined 14 yrs. 6 months.

Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in Grammar.	Not answered.	Per cent. of cor. answ.
16	13	0	18	0	0	
3	5	0	18	0	21	
2	23	4	16	0	4	
14	15	3	13	0	0	
29	0	0	10	0	0	
20	6	0	11	0	3	
1	14	0	11	0	14	
16	3	0	13	0	10	
8	6	1	17	0	15	
3	7	0	18	0	19	
7	11	0	16	0	11	
4	3	0	19	0	22	
16	1	0	24	0	12	
15	0	0	14	0	14	
6	3	0	16	0	20	
9	4	0	11	0	16	
15	2	2	10	0	12	
10	5	2	13	0	14	
9	8	0	12	0	12	
5	11	0	10	0	13	
208	140	12	290	0	232	.36

Proportion of the scholars examined .08; relative rank .0288.

ASTRONOMY. TABLE VI.

Question 1. What is the radius of a circle?

Question 2. What is the arc of a circle?

Question 3. How many degrees are there in the quarter of a circle?

Question 4. Which circle contains the greater number of degrees the equator or arctic circle?

Question 5. What do you understand by the terms zenith and nadir?

Question 6. What is the horizon?

Question 7. What is the axis of the horizon?

Question 8. What is a vertical circle?

Question 9. What is the altitude of a heavenly body?

Question 10. What is the azimuth of a heavenly body?

Question 11. Has the earth the greatest velocity in the rotation upon its axis, or the revolution around the sun?

Question 12. In the diurnal revolution of the earth, who are moved with the greatest velocity, the inhabitants of Mexico or of Boston?

Question 13. What difference will there be in the velocity with which the inhabitants of the abovenamed cities are moved in the annual revolution of the earth around the sun?

Question 14. Suppose one man is on the top of a mountain, another at its foot, and a third in a deep cavern,—all on the same parallel of latitude,—which will pass through the greatest space in one revolution of the earth upon its axis?

Question 15. Which moves with the least velocity?

Question 16. At what angle is the axis of the earth inclined to the plane of its orbit?

Question 17. Suppose the angle of the earth were perpendicular to the plane of its orbit, what effect would it have upon the order of the seasons?

Question 18. Explain the causes of the change of seasons.

Question 19. How many times does the moon revolve around the earth in one year?

Question 20. How often does the moon revolve upon her axis?

Question 21. Why is it that we see only one side of the moon?

Question 22. What causes an eclipse of the moon?

Question 23. What causes an eclipse of the sun?

Question 24. How many primary planets are there in our solar system?

Question 25. How many secondary planets?

Question 26. How many satellites has Jupiter?

Question 27. How many satellites has the earth?

Question 28 Which way does the earth move around the sun, from east to west, or from west to east?

Question 29. What is the principal cause of the tides?

Question 39. What do you understand by neap tides?

Question 31. What do you understand by the transit of a planet?

Examination in Astronomy.

FRANKLIN SCHOOL.

Total number of scholars 418; No. examined 19; average age of those examined 14 yrs. 6 mo

HAWES SCHOOL.

Total number of scholars 408; No. examined 17; average age of those examined 13 years 9 mos.

	FRANKLIN SCHOOL.							HAWES SCHOOL.						
No. of the question.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answers.	Per cent. of cor. answ.
1	18	1	4	13	1	0		12	2	1	9	0	3	
2	2	14	0	14	1	3		4	7	0	5	2	6	
3	19	0	0	5	0	0		16	1	0	3	0	0	
4	1	18	0	14	0	0		7	10	0	6	0	0	
5	3	1	0	5	0	15		9	3	1	9	0	5	
6	4	2	0	5	0	13		8	5	1	16	1	4	
7	1	1	0	2	0	17		2	3	0	3	0	12	
8	0	1	0	2	0	18		0	10	1	6	0	7	
9	0	0	0	0	0	19		0	2	0	2	0	15	
10	0	0	0	0	0	19		0	2	0	0	1	15	
11	3	9	0	7	0	7		1	14	0	5	0	2	
12	11	5	0	11	0	3		10	5	0	6	0	2	
13	1	0	0	1	0	18		4	2	0	3	0	11	
14	8	1	0	5	1	10		10	3	0	5	1	4	
15	6	3	0	4	1	10		8	5	0	3	0	4	
16	0	2	0	2	0	17		5	9	0	2	0	3	
17	3	3	0	2	0	13		15	1	0	15	3	1	
18	1	4	1	8	0	14		9	6	5	13	3	2	
19	0	2	0	0	0	17		3	10	0	2	1	4	
20	4	1	0	1	0	14		10	5	0	4	0	2	
21	0	2	0	2	0	17		4	10	3	10	1	3	
22	12	6	0	18	1	1		12	5	2	16	5	0	
23	9	6	0	9	0	4		14	2	1	8	1	1	
24	2	13	0	2	0	4		15	2	0	3	0	0	
25	12	1	0	3	0	6		17	0	0	2	0	0	
26	6	5	0	0	0	8		17	0	0	1	0	0	
27	16	1	0	2	0	2		16	1	0	1	1	0	
28	8	6	0	12	0	5		13	4	0	10	0	0	
29	5	3	1	5	1	11		14	1	1	13	1	2	
30	2	0	0	0	0	17		4	8	2	5	2	5	
31	1	1	0	0	0	17		6	3	2	6	2	8	
	158	112	6	154	6	319	.27	265	141	20	192	25	121	.50

Proportion of the school examined .05; relative rank .0135.

Proportion of the school examined .04; relative rank .0200.

Examination in Astronomy.

JOHNSON SCHOOL.

Total number of scholars 547; No. examined 50; average age of those examined 13 yrs. 6½ mos.

MATHER SCHOOL.

Total number of scholars 485; No. examined 18; av'ge age of those examined 14 yrs. 6 mos.

	JOHNSON SCHOOL.							MATHER SCHOOL.						
No. of the question.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.	Correct answers.	Incorrect answers.	Errors in spelling.	Errors in punctuation.	Errors in grammar.	Not answered.	Per cent. of cor. answ.
1	9	8	1	11	0	33		17	1	1	14	0	0	
2	3	13	0	8	0	34		4	6	1	7	1	8	
3	44	3	0	17	0	3		16	2	0	1	0	0	
4	11	33	0	24	1	6		0	18	0	15	0	0	
5	2	1	1	7	0	47		3	2	0	10	0	13	
6	5	4	1	2	0	41		15	2	2	9	1	1	
7	0	2	0	3	0	48		0	3	1	3	0	15	
8	1	5	0	5	0	44		2	1	0	2	0	15	
9	0	1	0	1	0	49		0	4	0	6	0	14	
10	0	0	0	0	0	50		0	1	0	2	0	17	
11	15	21	1	15	0	14		5	10	0	12	0	3	
12	25	4	0	15	0	21		13	5	0	16	0	0	
13	4	1	0	4	0	45		1	1	0	2	0	16	
14	11	6	0	10	0	33		6	3	0	5	2	9	
15	13	6	0	9	0	31		5	6	0	10	0	7	
16	1	6	0	4	0	43		4	2	0	3	0	12	
17	14	0	0	10	0	36		0	2	0	1	0	16	
18	6	9	0	11	0	35		7	3	1	15	0	8	
19	3	8	0	8	0	39		0	11	0	5	0	7	
20	2	8	0	7	0	40		4	6	0	9	0	8	
21	4	7	0	8	0	39		0	3	0	3	0	15	
22	19	18	0	27	4	13		9	8	0	14	2	1	
23	26	7	0	16	2	17		13	4	0	16	3	1	
24	27	14	0	2	0	9		1	16	0	2	0	1	
25	31	6	0	8	0	13		17	1	0	1	0	0	
26	29	3	0	8	0	18		0	0	0	2	0	18	
27	40	0	0	7	0	10		17	1	0	2	0	0	
28	13	27	0	20	0	10		10	7	0	14	0	1	
29	5	3	0	6	0	42		6	9	1	17	0	3	
30	1	1	0	4	0	48		9	5	1	16	0	4	
31	4	4	0	5	0	42		2	9	0	7	0	7	
	368	229	4	282	7	953	.24	186	152	8	241	9	220	.33

Proportion of the school examined .09; relative rank .0216.

Proportion of the school examined .04; relative rank .0132.

TABLE VII,

SHOWING THE ANSWERS GIVEN TO QUESTIONS IN HISTORY BY ONE MEDAL SCHOLAR FROM EACH SCHOOL.

1. *What is History?*

No. 1. History is a narrative of past events.
2. History is a narrative of past events.
3. a narrative of past events
4. History is a narrative of past events
5. Is a record of past events
6. A narative of past events.
8. History is a narrative of past events.
9. History is the facts which took place in Ancient and Modern times
10. A naritive of past events
11. Is a narrative of past events.
12. I have not studied it
13. A narrative of past events
14. History is a narrative of early events.
15. History is the narration of past events
16. History is a narative of past events

4. *What Nations are among the first mentioned in History?*

No. 2. Egyptians, Phœnicians,
3. Babylonians, Grecians, Romans,
4. I never studied it
5. The Egyptians, Phœnicians, Perssians, Grecians, Romans I believe are mong the first.
6. The Egyptians.
9. Rome Greece
10. Egypt percia Babylon
10. Greece, Rome,
11. Have not studied this
12. I have not studied it.
13. Asia Minor Greece
14. England & France
16. Egypt. Babylon Persia. Assyria, Greece, Rome

5. *For what were the Egyptians distinguished?*

No. 3. I have not studied
5. For architecture
6. For literature, science and knowledge of the arts.
9. Civilation and Literature

Note. — In some schools, it was found that the scholars had not studied those parts of the text-book on History, referred to in some of the questions; and they were directed, where that was the case, to say so.

12. For Arts.
13. Never Studied it
14. For worshiping Idols or false gods.
16. For the Arts

---

6. *For what were the Phœnicians distinguished?*

No. 2. They were distinguished for glass, purple, and coinage.
3. I have not studied
4. I never studied it
6. for ware
12. I have not studied it,
13. Never Studied it
16. for the invention of Glass

---

7. *Who was the Founder of Babylon, and about what Period did he live?*

No. 3. I have not studied
4. 1 never studied it
5. Nebadeanezar
6. Nimrod.
9. Nimrod
12. Have not studied it.
13. Never Studied it
16. Nimrod. not long after the dispersion of Babel

---

8. *Who was the Founder of the Persian Empire?*

3. I have not studied
4. I never studied it
6. Cyrus.
12. I have not studied it.
16. Cyrus the Great

---

9. *Who were some of the most distinguished Orators and Poets of Greece?*

3. I have not studied
4. I never studied it
12. Do
13. Demosthenes Aristotle Cicero
16. Simonides Demosthenes, Euripides

---

10. *Who was the Founder of Rome?*

2. The foundation of Rome was attribute to Romulus, leader of a band of shepards.
3. Romulus
4. Romulus and Remus
5. Romus and Romelius
6. Julius Ceasar
9. Romulus. and Remus
12. Have not studied it.
16. Romulus

---

11. *What was the character of the early government of Rome?*

3. vicious
4. I never studied it
5. it was the best ever known

Rome
9. Tyranical
12. I have not studied it
16. Never studied

12. *Can you mention the names of the Roman Emperors?*

No. 2. Romulus and Remus. Numa Pompilus. Servius Tullias. Ancus Marcius Tullias Hostillias.
4. I never studied it
5. Ceasar
12. I have not studied it.
16. Augustus Ceaser Tiberius Nero, Claudius Caligula Galba Titus Vespasian, Domitian Nerva Trajan

13. *Can you give any Account of the Feudal System?*

No. 3. I have not studied.
5. No Sir
12. Have not studied it.
16. The feudal Sistem had its origin from among the barbarous nations the Goths Huns & Vandals &c, but it is supposed to have received its earliest improvements from the Lombards

14. *What were the Purposes of the Crusades?*

No. 1. For the delivery of Jerusalem.
2. Never studied
3. I have not studied
4. They wished to visit the holy City
5. I believe they fought for their religion, they were cruel in their dispositions
6. To rescue the Holy Land from the power of the Saracens.
9. To rescue the Tomb of christ from the Heathen nations
12. Not studied.
16. To recover the sepulchre of our Savior from the Mahometans

15. *In what Century was the great French Revolution, and who were some of the Characters who figured in it?*

No. 2. Never studied
3. in the 17th century Robespierre & his associates
4. I never studied it
5. in the 18th century Napoleon Louis Phillippe.
6. In the 18th century.
8. In the 17th century. Generals Washington, Wolfe and Montcalm

12. Have not studied it.
14. 18 century. Bonaparte, La Faette & Duke of Orleans.
16. 18 century Napoleon Wellington Blutcher

16. *What nation ruled Britain at the commencement of the Christian era?*

1. The Romans
3. Saxon
4. Roman
5. Saxons
6. The Saxons.
9. The Christian era was the time when the Saxons invaded Britain and Became the masters
12. Have not studied it.
13. Rome
14. romans.
16. Rome

18. *What do you understand by the Norman Conquest?*

4. The period in which William the conquerer took possession of Britain
5. A war with the Norwegians.
6. The conquest of Englang by william of Normandy
8. The time when William the conqueror, ascended the throne, in 1066
12. Not studied it.
13. the time Britain was concord by William the Norman
14. They were conquered by William 1
16. Edward the Confessor dying without children bequeathed the crown to William Duke of Normandy who resolved to maintain his claim by force of arms, He raised an army of 600000 men, and defeated Harold with an equal army in the battle of Hastings

19. *What was the Period of the Commonwealth in England, and who was the most distinguished character in it?*

No. 1. Oliver Cromwell.
3. 1550. Oliver Cromwell.
6. 1670 Oliver Cromwell
7. 1653. oliver Cromwell
12. Have not studied.
13. 1648 The most distinguished caracter was Cromwell
14. In the 18th century. Cromwell
16. 16 century. Cromwell

20. *About what Period did the first Colonists come to New England, and what were the*

supposed Motives for their leaving the Mother Country?

No. 1. On account of religious persecution carried on in England. 1607

2. They came to escape from religious persicution Dec. 22, 1620.

3. 1620

4. Dec. 22. 1620. They were persecuted on account of their religion

5. in 1620. 1623 1634 1635 they came here to enjoy civil and religious liberty

6. In 1620. on account their religion.

8. 1620. On account of religious persecution

9. About the 15th centery Because they wanted to enjoy a more free and religious liberty.

10. 1606 They came here with the idea of obtaining wealth.

11. In 1620 on account of their religious persecution

12. 1607. Came here to enjoy their religion Being driven from England by Religious Persecution.

13. A settlement was made in 1620. at Plymouth by 101 puritains the motives for leaving the mother country was that they might enjoy religious liberty

14. 1620 they left on account of Religious persecutions

15. About 1600 Their motives for leaving the mother country was that they might enjoy freedom both civil and religious.

16. About the time of protectorate of Cromwell, on account of religious persecution

---

21. *How long did they continue subject to the Mother Country, and what were some of the assigned Reasons for throwing off her Government?*

No. 1. From 1607 to 1776. The taxing of them.

3. till 1775

4. about 150 years The mother Country taxed them and laid duties on all articles of comerce and passed laws which the Americans did not like to obey.

5. until the 1776 There reasons were that the mother country tried to raise a revenue

6. Until July 4th 1776.— taxes were imposed on the merchandise by the British.

8. If the war had been waged by G. Britian on their their account it was because they were useful to her

9. Between the 17th and 18th centuries The taxes imposed on them
11. 1620 until 1763 because she taxed the colonies and would not let them send representatives to parliament.
12. Dont Know.
13. From the first at Jamestown in the year 1607 to the declaration of Independance in the year 1776 (reasons) taxations without reprasentation
14. till 1775 because they imposed on them duties on Tea, Coffee, Clay sugar, Painters colors &c.
15. They claimed the right of taxing themselves till the revolutionary war.
16. nearly two centuries. the Mother country began to assert her sovereignity over them and to interfere in their civil concerns and duties were laid on goods imported from West India Islands as did not belong to Great Britian

---

22. *When did the War of the American Revolution commence, and who were the Allies of the Americans?*

No. 1. The French.
2. The French. 1775.
3. About the year 1776
4. 1774 the French
5. 1775
6. The French.
8. In the 17th century
9. 1775 The French
10. 1600
11. 1775 French,
12. 1775 the French
13. The war commence in the year 1775
14. 1776 Allies France
15. In 1775
16. in the year 1775 The French

---

23. *When was the present Federal constitution formed, during or after the war of the revolution; and how many States accepted it at its Formation?*

1. After the war. All the States except two.
3. After the war 11
4. During the war 13 states accepted it
5. after the war all the states except Rhode Island and Georgia
6. After the war. Eleven. There were 13 all but two accepted it.
8. In 1788. After the Revolution. 11 States accepted it
9. In 1788 13 states
10. All but two During the war
11. after the war of the revolution 13 States
13. after the Revolution in the year 1788

14. after the Revolution 11
15. 13 States. After the revolution
16. After

24. *About what period was the embargo laid by President Jefferson and Non-intercourse substituted for it?*

1. After the war of the Revolution
3. 1809
4. I never studied it
5. 1807 or 9
6. 1809
7. 1807
8. December, 1807
9. In 1809
10. 1809
11. 1807
13. 1807
14. 1809
16. 1807 December

26. *What do you understand by an Embargo?*

1. Prohibition to sail
3. stop our trade
5. a protection
6. Restriction on trade.
9. Duty to be paid on vessels entering the waters from which an embargo
10. Put to trade
11. Stopping the trade with other Countries
13. not to let the vessels go out of port
14. a prohibitation to pass a stoppage of trade
15. A duty laid on certain goods
16. A prohibition to Never Studied

27. *How many more members are there now in the Senate of the United States than there were at its first adoption?*

1. 30
3. 26 more
4. I never studied it
5. twice as many
8. 15 more including Iowa and Florida
6. 28. if Florida comes in if not 26
14. 32
16. Never Studied

28. *What was the result of the Invasion of Canada in the last war?*

1. The French northern possessions in America confirmed to Britain and the Americans experienced a release from the calamities which they had experienced from the French and Indians.
3. unsuccessful
4. I never studied it
5. unsuccessful
6. Canada was ceded to England.

8. Took fort Erie, and Bridgewater
9. They were defeated
14. unsuccesful to the Americans.
16. Never studied

---

29. *What is Chronology?*

2. Never studied
3. science of computing time
4. I never studied it
5. is a table containing some of the principal events & dates under which they happened.
9. The dates of a country

taken in one view

11. a tabular view of History
12. Science of time and study of dates
14. doctrine of time & dates
16. Never Studied

---

30. *What are the Eras the most used in Chronology?*

2. Never studied
3. I have not studied.
4. I never studied it
9. The Christian Era
12. the eras of the delug
16. Never Studied

Note. The answers to 1, 3, 17 and 25, being generally very long, are omitted.

TABLE VIII,

SHOWING THE ANSWERS GIVEN BY ONE MEDAL SCHOLAR FROM EACH SCHOOL IN THE CITY.

DEFINITIONS.

1. Monotony.

No. 1. Sameness.
2. Sameness
3. Sameness.
4. is a slow manner
5. Undisturbed silence, or a sameness of manner, with no variety.
6. Soothments.
7. Dullness.
8. Unvaried
9. Sameness
10. All in one tone.
11. Readind without on the same tone of voice
12. Same tone of voice
14. Sameness, without variation
15. Stillness.

No. 13 did not answer.

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2. Convocation.

No. 1. Business.
2. an assembly
3. An assembly.
4. the act of bringing about
5. A collection.
6. Pray
8. Assemblage
9. An assembly
10. To install.
11. The act of calling together
12. To convert
15. something that is not heavanly

Nos. 7, 13 and 14 did not answer.

---

3. Bifurcation.

No. 1. The place where two rivers meet.
2. I do not know
3. The forking of any thing.
4. projecting out in the form of a fork
5. To go from
7. Fork of a River.
8. Transmigration of birds
9. Division
10. Where two rivers branch out.
11. Turning of a stream from its course
12. Meeting of two things
15. Washing

Nos. 6, 13 and 14 did not answer.

No. 4. PANEGYRIC.

1. A Poem
2. I do not know
3. I do not know.
4. Eulogy.
6. Startling
8. Terror
9. Whim. notion
10. I do not know
12. Hystorick Life of a person
15. Crasy

Nos. 5, 7, 11, 13 and 14 did not answer.

---

5. VICEGERENT.

1. A person who does some business, or work, for another one.
2. a ruler.
3. Independent
4. Ruleing in stead of another
6. Head One
8. Agent
9. One invested with power from the head
10. A commander.
11. A shairer in power
12. Representative
13. When any thing knows itself, or knows its power
15. Captain

Nos. 5, 7, and 14 did not answer.

6. ESPLANADE.

1. A Portico.
2. a walk
3. Platform
4. A level Space of land
6. Archway
7. A body of people.
8. Lawn in front of a house
9. A place to walk on the outside of a castle
10. A walk.
11. A garden before a house
12. Battlements of a fort or a castel
13. The Front of a house.
15. a platform

Nos. 5 and 14 did not answer.

---

7. PRETERNATURAL.

1. Something more than natural, some higher power.
2. Irregular
3. Not natural
4. not natural.
6. Not natural.
8. More than human
9. Not Natural
10. Before the time.
11. more than natural
12. Something unnatural
13. Extraordinary.
14. External
15. something natural

Nos. 5 and 7 did not answer.

8. FORUM.

No. 1. A large hall
2. a public place
3. A Roman pulpit.
4. a place for speaking in Rome
6. Market
8. Stage or Platform
9. A public house in Rome like Faneul Hall
10. A body of people.
11. A large space within the cittey of Rome
12. A large ampi Theater
15. a platform which surrounded the Roman capitol

Nos. 5, 7, 13 and 14 did not answer.

---

9. EVANESCENCE.

No. 1. Sweetness.
2. Immortality
3. I do not know.
4. something that passes away
6. Ever Present
8. Shortness of duration
9. Smell
10. Odor
12. Vanishing
13. Anything that is in motion
14. Unsubstantial, Vanishing.

Nos. 5, 7, 11 and 15 did not answer.

10. IMPORTUNATE.

No. 1. Harrassing, Asking for the same thing often
2. Urgent
3. Impatient,
4. a desire for any thing
5. Imploring.
6. One Importent
7. Desirous of knowing something.
8. Persevering
9. Plagueing
10. To tease.
11. Earnest
12. to ask a question
14. Entreating.
15. to ask

No. 13 did not answer.

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11. INFATUATED.

No. 1. Blinded
2. I do not know
3. Blinded
4. without reason
6. Not Fatuated
7. Crazy
8. Deluded
9. One that has wrong notions and is very ardent in their course
10. Impressed with some bad notion.
11. excited to envy
12. Believing a thing that no argument can induce him to alter.
15. inspired

Nos. 5, 13 and 14 did not answer.

12. KIRK.

No. 1. A Church.
2. A Church
3. Church
4. a Scottish name of Church
5. The House of a Scottish Minister.
6. Country Church
8. Residence of a minister.
9. Minister
10. A church.
11. A Chirch
12. Towns in Scotland
15. Capitol

Nos. 7, 13 and 14 did not answer.

13. CONNOISSEUR.

No. 1. A person who understands some particular business, but does not practice it.
2. A critic
3. Lover of any art.
4. one that is not acquainted with any art
6. Critticin
7. A man that composes music.
8. A critic or Judge
9. A man of rank.
10. One who spys.
11. A Judge
12. a Judge of a Critic
15. Governer

Nos. 5, 13 and 14 did not answer.

14. DORMANT.

No. 1. Still. Silent.
2. Sluggish
3. Sleeping
4. Seepy
5. Stupid
6. Adored.
8. Inactive
9. Without life
10. Still.
11. Sleep
12. Supid
14. Inactive
15. Selfish

Nos. 7 and 13 did not answer.

15. AËRIAL.

No. 1. In the air.
2. relating to the air
3. Relating to the air.
4. something pertaining to the air.
6. Airiy
8. In the Air
10. Of wind
11. relating to the wind
12. Flying in the air
15. belonging to the air

Nos. 5, 7, 9, 13 and 14 did not answer.

16. SPHINX.

No. 1. A King — A Ruler
2. An Image
3. A woman's head, formed of stone, in the Arabian desert.
4. a Egyptian Image
6. Statue
7. An animal made of Stone.
8. A Muse
9. Was an image which had the body of a lion and the head of a virgin
10. A woman in old times, who was shaped like a horse.
11. A fabulus being in Egypt
12. A Statue
13. Image in Europe,

Nos. 5, 14 and 15 did not answer.

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17. ROSEMARY.

1. A Flower,
2. A Rose
3. A flower which blooms in winter.
4. relating to marriage
6. Flowers that bloom in winter
7. A place where there are a great many flowers.
8. Sort of Berry, which grows in the West Indies
9. A flower
10. A flower
11. relating to flowers
12. A Flower
13. Flowers.
15. an herb

Nos. 5 and 14 did not answer.

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18. THANATOPSIS.

1. The dwelling of the Dead.
2. Nature
3. Vision of death.
4. relating to death
5. A view of Death. Thoughts on Death.
6. A view of Douth
7. It is the name of a piece in Reader, but I dont know the definition of it.
8. View of death
9. A sight of Death
10. I do not know
11. pertaining to death
12. A vision of Death

Nos. 13, 14, and 15 did not answer.

---

19. MONODY.

1. A song written by one person.
2. Lament
3. A lament
4. very slow
6. Song
9. Epataph
10. I do not know
11. mornful Song

12. Bewailing of a friend
15. Sameness

Nos. 5, 7, 8, 13 and 14 did not answer.

20. ANTHOLOGY.

2. I do not know
3. I do not know
6. anciantness
9. Record
10. A science
11. science
12. a description of Birds
15. the study of fishes

Nos. 1, 4, 5, 7, 8, 13 and 14 did not answer.

21. POTHER.

No. 2. Noise
3. A tumult.
4. a bird
6. Noise
9. Talk, Nonsense, vain rabble.
10. A noise.
11. noise.
12. Interfearing
13. Great noise.
15. Noise

Nos. 1, 5, 7, 8 and 14 did not answer.

22. MISNOMER.

No. 1. A wrong name.
2. A wrong name,
3. A wrong name.
4. a wrong name,
6. Name sake
7. A thing that never was.
8. Error or mistake
9. Misnamed a wrong name
10. I do not know
11. misnaimed
12. A Story not authentacated
13. Mistake
14. Error
15. a falshood

No. 5 did not answer.

23. ZOÖNOMIA.

No. 2. Account
3. I do not know what Zoonamia means.
4. works
6. Journal
9. Record of cases
10. Memorandum
11. Zoonamia is a collection of animals
12. Book of Records

Nos. 1, 5, 7, 8, 13, 14 and 15 did not answer.

25. HALLUCINATION.

No. 2. Mental delusion.
3. Derangement.
4. eivles of man
6. Crazy mind
9. out of mind
10. A. maniac

Nos. 1, 5, 7, 8, 11, 12, 13, 14, and 15 did not answer.

26. MACHIAVELLI.

No. 2. I do not know
3. The name of an author.
4. novel
6. novel
10. I do not know
11. A philossophical book
12. Book of plays

Nos. 1, 5, 7, 8, 9, 13, 14, and 15 did not answer.

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27. MADRIGALS.

No. 3. Songs.
4. Songs
6. Any good
10. Songs
11. A book of Hymns
12. Fassions

Nos. 1, 2, 5, 7, 8, 9, 13, 14, and 15 did not answer.

28. HADES.

No. 2. I do not know
3. The Greek name for Hell.
6. Spirits
9. Hell.
10. A town.
11. Hell from beneath is moved because of thee
12. a part of Hell
14. Greek word which means the Infernal regions.
15. Hell

Nos. 1, 4, 5, 7, 8, and 13 did not answer.

TABLE IX.

The following Table is made up by copying exactly the written answers to questions in Natural Philosophy, by five scholars of the first division, first class, in one of the schools, which ranks above mediocrity. The two preceding Tables show the answers of our choice medal scholars: this and the following will show answers of scholars, neither the highest nor the lowest. No 1, was a medal scholar,—fifteen years old; the average age of the others is fourteen years.

Natural Philosophy.

I. *What is the difference between Natural History and Natural Philosophy?*

No. 1. Natural Philosophy is that science which treats of the powers and properties of natural bodies, their mutual action on one other, and the laws and operation of the material world. Natural History treats of the

No. 2. Natural History is a narration of past events. Natural Philosophy treats of the natural laws and effects of Macheneary

No. 3. Did not answer.

No. 4. History is a narration of past events Philosophy is the science which treats of the powers and properties of natural bodies their mutual action on one another and the laws and opperations of a meterail world

No. 5. Natural History treats of beasts and birds. Natural Philosophy treats of the heavenly bodies such as the sun, moon, stars, and comets.

II. *What is the difference between Zoölogy and Geology?*

No. 1. Did not answer.
No. 2. We have not attended to them.
No. 3. I do not understand it.
No. 4. We have never studied it.
No. 5. We have never studied them

III. *Define the attraction of Gravitation, Attraction of Cohesion, and Chemical Attraction, or Affinity.*

No. 1. The attraction of gravitation is that which causes bodies at a distance to approach each other. The attraction of cohesion is that which unites the particles of a body.

No. 2. The attraction of gravitation causes bodys to approach each other. The attraction of cohesion causes the particles to approach each other we have not studied chemesterty.

No. 3. Did not answer.

No. 4. Gravitation causes bodies to fall towards the centre. Cohesion is that which unites the particles of a body.

No. 5. The attraction of gravity is that which causes bodies at a distance to approach each other. The attraction of cohesion binds the particles of a body together. I do not know what chemical attraction is.

IV. *What do you understand by the centre of gravity of a body?*

No. 1. The point about which all parts of the body balance each other.

No. 2. That part round which all bodies ballance each other.

No. 3. the point round which all parts of the body moves.

No. 4. The centre of gravity of a body is the parts around which all parts balance each other.

No. 5. It is the point about which all parts of the body balance each other

V. *Define Momentum.*

No. 1. It is the force which a moving body would strike against another body.

No. 2. Is the force which one body would strike against each other

No. 3. I do not understand it

No. 4. Momentum is the part around which all parts move.

No. 5. I do not understand it

VI. *What is the reason that when a coach in motion is suddenly stopped, the passengers are thrown forward?*

No. 1. Did not answer.

No. 2. On account of the momentam of bodies

No. 3. becaus the center of gravity is not supported.

No. 4. because the centre of gravity is not supported

No. 5. I do not know.

VII. *What is the rate of velocity of falling bodies?*

No. 1. It is in proportion to the force with which they are thrown

No. 2. Is in porportion to thur density
No. 3. In proportion to there Density
No. 4. It is in proportion to their density
No.5. I have never learned it.

VIII. *How much farther will a body fall in ten seconds than in five seconds?*

No. 1. It will twice as far if the velocity be the same.
No. 2. Twice as far
No. 3. twice the distance.
No. 4. Twice as far
No. 5. Twice as far

IX. *What is the reason that you can cut a piece of pasteboard or hard substance, more easily by holding it close up to the rivet of a pair of scissors, than by holding it near the ends of the blades?*

No. 1. Because the nearer the power is applied to the end of the lever most remote from the fulcrum the greater is the advantage gained.

No. 2. A pair of scissors is a lever of the first kind the revet is fulcrum the points is the power and end in hand is the weight so it will be cut more easily near the revits

No. 3. Did not answer.
No. 4. beceause
No. 5. I do not understand this question

X. *Why is it that when you skip a stone over the surface of water it does not sink the first time it strikes the water, since it is heavier than the water?*

No. 1. Did not answer.
No. 2. I dont know
No. 3. Did not answer.
No. 4. dont know
No. 5. I dont know.

XI. *Which could you stop most easily, a rail-road car weighing a ton, going at the rate of* 10 *miles an hour, or a car weighing* 100 *tons, creeping along at the rate of a quarter of a mile an hour?*

No. 1. A car weighing 100 tons.
No. 2. A Car of a 100 tons.

No. 3. A railroad car weighing a ton,
No. 4. Did not answer.
No. 5. One weighing 100 tons.

XII. *Explain the hydrostatic press.*

No. 1. It is constructed on the principle that whenever water is confined in a vessel, and a pressure is exerted on the surface, a pressure to an equal amount will be transmitted over every square inch of the surface, of the vessel in which the water is confined.
No. 2. I cannot
No. 3. Did not answer.
No. 4. dont know
No. 5. In the hydrostatic press any quantity however small may be made to balance another quantity however large.

XIII. *What is specific gravity?*

No. 1. It is the relative weight of a body compared with that of another body.
No. 2. It is a term given to expriss the relative weight of different bodies of eaqual dinsities
No. 3. Did not answer.
No. 4. Specific gravity is the term eused to show the weight of equal quantities of different bodies
No. 5. It is a term used to express the relative weight of equal quantites to different bodies

XIV. *How high can you raise water in a common pump, with a single box?*

No. 1. 32 inches
No. 2. I dont know
No. 3. Did not answer.
No. 4. dont know
No. 5. 32 inches

XV. *How high could you raise quicksilver by the same contrivance?*

No. 1. Did not answer.
No. 2. I dont know
No. 3. Did not answer.
No. 4. dont know
No. 5. I do not understand it

XVI. *In building a cistern should it be made stronger at the bottom, or the top? Why?*

No. 1. At the top; because their is more weight above it.
No. 2. At the bottom becaus a greatir weight will well come upon the bottom
No. 3. Did not answer.
No. 4. dont know
No. 5. At the bottom If it were not the water would leak away.

XVII. *If a grindstone should be suddenly split in pieces, while whirling rapidly around, would the fragments fall directly to the ground, or not? Explain the principle.*

No. 1. Did not answer.
No. 2. The fragments would fall to the ground on account of the attraction of gravitation
No. 3. Did not answer.
No. 4. The fragments would fall to the ground beceause the attraction of gravitation Causes bodies to fall to the ground.
No. 5. They would not. I do not understand the principle.

XVIII. *Is a stage coach, with baggage upon the top, more liable to be overset than the same coach with the baggage hung under the axletree? If so, why?*

No. 1. It is the centre of gravity is not supported
No. 2. Becaus when the baggage is upon the top the center of gravitty is not supported
No. 3. Did not answer.
No. 4. The baggage upon the top, beceause the baggage on the axletree would be heavier so that it could not overset.
No. 5. I do not understand it.

XIX. *In a small boat which is in danger of being overset, should the passengers stand up, or lie down in the bottom? Why?*

No. 1. The passengers standing up. because the centre of gravity is most firmly supported
No. 2. They should lie down in order to support the center of gravity.
No. 3. lie down, then the center of gravity is supported.
No. 4. Lie down, beceause it deos support the centre of gravity.

No. 5. They should lie down in the bottom. Because if they lie down in the bottom there is not so much danger of their falling out.

XX. *Which occupies the most space, a pound of water when liquid, or when in the state of ice?*

No. 1. A pound of water when liquid
No. 2. Water when liquid.
No. 3. when liqide.
No. 4. A pound of water when liquid
No. 5. When liquid.

TABLE X.

WRITTEN ANSWERS OF THE SAME FIVE SCHOLARS TO QUESTIONS IN ENGLISH GRAMMAR.

I. *Parse the following sentence, and write a full account of each word.* — WITHHOLD NOT GOOD FROM THEM TO WHOM IT IS DUE.

No. 1. Withhold is a verb present Withhold preterit Withheld imperfect participle Withholding perfect participle Withheld irregular Active transitive Imperative mood Subject ye or you second person plural number. Not Adverb manner qualifys Withhold. Good common noun Adjective used as a noun objective case and governed by Withhold. From is a preposition and governs them i shows the relation between Good and them. To is a preposition and governs whom it shows the relation between whom & them, It is a personal pronoun it third person Singular number Neuter Gender Nomitive case to is. Them is a personal pronoun third person Singular number objective and governed by from, whom is a relative pronoun third person neuter gender Singular number governed by to. Is. is a verb present Be or am preterit was imperfect participle being perfect Been irregular Neuter verb Iendecitive mood present ense third person Singular number and agrees with it Due is a adjective common adjective belongs to it

No. 2. Withhold, Verb, Imperative Mood. Present Tense. Second Person. Singular Number, Agrees with Thou

Not. Adverb. Added to Withhold

Good. Adjective Added to Things

From. Prepposition Shows Relation between Things & Them

Them. Personal Pronoun Third Person Singular Number Objective Case Governed by From

To. Prepposition Relation between Them & Whom

Whom. Relative Pronoun Third Person Singular Number Objective Case Governed by To

It. Personal Pronoun Third Person Singular Number Nominative Case to Is

Is. Verb Indicative Present. Third Person Singular Agrees with It.

Due. Adjective

No. 3. Withhold is a verb — Withhold Withheld Withholding Withheld Irregular Nueter Verb Imperative mood Present tense Second person Singular And Agrees with Thou understood. Not is an Adverb of manner and relates to Withhold— good is an Adjective reppresents its noun third person singular Objective case and governed by Withhold — from is a preposition shows the relation between Withhold not good them to Whom it is due — them is a pronoun third person plural number Objective Case and governed by from —

No. 4. Withhold is a verb; an Active Transitive verb; Potential mood present, 2d person singular, and agrees with thou understood. Not is an Adverb and is added to withhold. Good is a noun, 3d Person singular, neuter gender, Objective case and is governed by withhold. From is a Preposition shows the relation between good and them. Them is a pronoun third person, plural, and is governed by from. To is a preposition, shows the relation between them and it. Whom is a relative pronoun, 3d person, plural, objective case and is governed by to. It is a pronoun, 3d Person singular, nominative to is. Is is a neuter verb present and agrees with it. Due is an Adverb, added to, is.

No. 5. Withhold is a verb. irregular newter Withhold. Witheld Witholding. Withheld Imperitive Mood Present tense 2nd Person Singular agrees with thou understood. Not adverb adverb of Manner and added to Withold good is an adjective represents its noun. 3d, Plural number Nomanative case after Withold from is a Prepersition Shows the relation between Good and Them. Them is a pronoun 3d Person Plural number objective Case and governed by from to is a preposition Shows the relation between them & Whom Whom Pronoun 3d person Sin No Objective Case govern by to it is a Pronoun, 3 Person Singular no Nom Case to is

II. *Parse the following sentence:* —THE WAGES OF SIN IS DEATH.

No. 1. The is a definite article Wages is a common noun Nominative case to is — third person Singular number nueter gender. of is a preposition governs Sin Shows the relation between Sin and Wages. Is a verb present be or am preterit was imperfect participle being perfect participle been Iregular Nueter verb indicitive mood present. third person Singular number. Death is a noun third person Singular number nominative case after is.

No. 2. The. Article Added to Wages

Wages. Noun Third Person Singular Neuter Gender Nominative Case to Is

Of. Prepposition Shows Relation between Wages & Sin

Sin. Noun Third Person Singular Number Objective Case Governed by of

Is. Verb, Indicative Present Third Person. Singular Agrees with Wages

Death. Noun. Third Person Singular Nominative Case after is.

No. 3. The is an article limits wages wages is a noun 3d person singular number Nueter gender Nomnative Case to is— of is a preposition shows the relation between The wages — sin is death — sin is a noun third person singular number Nueter gender Objective Case and governed by of — is is a verb third person singular number Indicative mood present tense and agrees with wages —

No. 4. Wages is a noun, 3d person singular, neuter, nominative case to is, Is is a neuter verb, present, Indicative, and agrees with wages, Of is a preposition, shows the relation between wages and sin, Sin is a noun 3d person, singular, objective case, and governed by of. Death is a noun, 3d person, singular, nominative case after is,

No. 5. Wages is a noun 3d Person Sin Nom to is of Preposition shows the relation between Sin & Wages Sin is a noun 3d Person Objective case govern by in is is a verb Indic mood Pres tense 3d person Sin No Nom C after is

III. *Write a short sentence containing an active transitive verb, and an objective case.*

No. 1. Parse the following sentence
No. 2. James & I went in the Country
No. 3. John Struck Charles
No. 4. I love you
No. 5. Wm Struck me

IV. *Write a sentence containing a neuter verb, a relative pronoun, and an adjective in the comparative degree.*

No. 1. the days are longer now than what they used to be
No. 2. He who is Sick if is not Careful will be Sicker
No. 3. Who is better than him
No. 4. She was the prettiest girl, that I ever saw.
No. 5. What was that Better than this

V. *Write a sentence with the verb* TO COMFORT *in the passive voice, potential mode, perfect tense, 2d person plural.*

No. 1. ye or you may be comforted
No. 2. Did not answer.
No. 3. Did not answer.
No. 4. You might have gone to comfort her
No. 5. You may have seen me before you came to comfort me.

VI. *In what cases do we use* A *instead of* AN?

No. 1. A is used before words beginning with A consonat and an is used before words before
No. 2. When the word begins with a Consonant
No. 3. Where the following begins with a consonant—
No. 4. Before consonants, (except the words beginning with silent letters)
No. 5. When the fowlering begins with a consonant

VII. *What is the difference between an active and neuter verb?*

No. 1. Active verb is a verb which expresses an action and has some person or thing for its object Neuter verb is a verb which expresses neither action nor passion but simply being or state of being
No. 2. An Active Verb expressive an action An Neuter verb expressive a State of Being
No. 3. One expresses an action and the other a state of being
No. 4. One expresses an an action and the other a state of being
No. 5. Active verb expresses an Action
Newter verb expresses neither action nor passion but Simply being or state of being

VIII. *What is the difference between ordinal and numeral adjectives?*

No. 1. ordinal adjective are such as first second third
adjective of order
numerel adjective is one that a definite number one two three
No. 2. Did not answer.
No. 3. Did not answer.

No. 4. An ordinary adjective is a common epithet or adjective denoting quality. A numeral adjective is one that expresses numerical value

No. 5. Numeral adjective is one that expresses a definite No Ordinal adjective is one expresses a definite No No difference

IX. *What is an allegory ?*

No. 1. I never sutded it
No. 2. Did not answer.
No. 3. A tale founded on fiction
No. 4. An assertion founded on fiction
No. 5. Did not answer.

X. *Punctuate the following sentences ; correct all the errors that you may find in them ; and write them out grammatically, if you think them to be ungrammatical.*

YOUR BROTHER WAS THERE AND HE SAID TO MY SISTER AND I I AM TIRED AND MUST GO AND LAY DOWN TO REST ME AND WHEN HE WAS LAYING DOWN WE TRIED TO LIE A VAIL OVER HIS FACE.

I SHALL COME TO SEE YOU THIS AFTERNOON UNLESS IT RAINS.

VAIN MAN THOU PRESUMEST TOO MUCH NEITHER THE LION NOR THE TIGER WILL BOW THEIR NECKS TO THEE.

TO BE OR NOT TO BE THAT IS THE QUESTION.

THE PROPRIETY OF SUCH RULES ARE DOUBTFUL.

No. 1. Your brother was there and he said to my sister i am tired and must go and lay down to rest me and when he was laying down we tried to lie a vail over his face.

I shall come to see you this afternoon if it Does not rain

No. 2. Your brother was there and he said to my sister and I I am tired and must go and lay down to rest me and when he was laying down we tried to lie a vail over his face.

No. 3. Your brother was there and He said to my sister and myself i am tired and must go and lay down to rest me and when he was laying down we tried to lie a vail over his face.

No. 4. You brother was there, He said to my sister and myself I am tired I must go and lie down to rest myself and when he was lying down we tried to lay a veil over his face.

I shall go to see you this afternoon if it does not rain

Vain man thou presumest too much, neither the lion or the tiger will bow his neck to thee.

To be or not to be, these are the questions

The propriety of such rules is doubtful.

No. 5. Your Brother was there and he said to my Sister and me I must go and must go and lay down to rest myself and when he was lying down we tried to lay a veil over his face

I, shall go to see this afternoon unless it rains

Vain man thou presumest to much neither the Lion ror the Tiger will bow their necks to thee

To be or not to be is the question.

The propriety of such rules is doubtful.

TABLE XI.

SHOWING THE EXACT ANSWERS GIVEN TO THIRTY-ONE QUESTIONS IN GEOGRAPHY BY TEN SCHOLARS, TAKEN IN ALPHABETICAL ORDER FROM A GIRLS' SCHOOL IN BOSTON, AND A GIRLS' SCHOOL IN ROXBURY, THE AVERAGE OF THEIR AGES BEING ABOUT THE SAME.

I. *Name the principal lakes in North America.*

CITY SCHOOL.

Scholar.

No. 1. Superior. Michigan. Huron. Erie. Ontari.

2. Superior, Huron, Michegan, Erie, Ontario, Slave, Great Bear,

3. Superior, Huron, Erie, Michigan, Ontario,

4. Slave, Great Bear, Winnepeg

5. Superior. Huron. Erie. Ontario Slave. Lake of the hills. Great Bear.

6. Superior—Huron—Erie Ontario Slave Michegan.

7. Superior, Huron, Michegan, Erie, Ontario, Winnipeg.

8. Superior, Huron, Erie, Ontario, Slave.

9. Superior, Michigan, Huron, Erie, Ontario Winnepeg, Athapescow, Slave, Great Bear, Lake of the Hills.

10. Lake Superior Lake Ontario Lake Erie Lake Huron Lake Champlain.

DUDLEY SCHOOL, ROXBURY.

Scholar.

No. 1. Lakes Superior, Michigan, Huron, Erie, Ontario, Champlain, Winnipeg and Great Bear Lake.

2. Great Slave Athabasca Winnipeg Lake of woods Superior Erie Ontario Champlain Michigan Great Bear Huron George

3. Lake Superior, Michigan, Huron, Erie, Ontario, Great Slave, Bear Winnipeg, Champlain, Lake George.

4. Lake Superior, Ontario, Erie, Huron, Champlain, Michigan, George, Grand, Oswegee, Winepisego, Black.

5. Slave, Great Bear, Winnepeg, Superior, Huron, Erie, Ontario, Champlain Athabasca, George, Tule Buenaventura, Red, Itasca, Michigan.

6. Lake Superior, Lake Huron, Erie, Ontario, Michigan Champlain

7. Lakes Erie, Huron, Superior, Michigan, Ontario Great Bear, Great Slave, lake of the woods, Rainy lake Nigeraugua, Champlain.

8. Superior. Huron Ontario Erie Michigan Great Bear Great Slave Athabasca Nicaragua Winnipeg, Champlain.

9. Lake Superior, Michigan, Huron, Erie, Ontario, Great Slave, Great Bear, Winnepeg, Rainy, Red, Lake of the Woods, Itasca, Chesuncook &c

10. Superior, Michigan, Huron, Erie Ontario, Great Bear Slave, and lake of the Woods,

II. *Name the principal rivers.*

CITY SCHOOL.

1. Misissippi. Missouri. St. Lawrence Columbia.

2. Mississipi, Missouri, Arkansas, Red, Tennessee, Columbia, Merrimac, Hudson, Delaware,

3. Mississippi, Missouria, Ohio. Arcansas, St Lawrence

4. Mississippi, Mississouri, Oregon

5. Mississippa. Missoura. St Lawrence. Rio del norte. Collumbia. Severn.

6. Mississippi Nelson Mississouri Sant Lawrence

7. Mississippi, Missouri, St. Lawrence, Columbia, Mackensie Severn, and Colerado.

8. Mississippi, Missouri, St. Lawrence, Columbia, Severn, Colorado.

9. Penobscot, Kennebec, Androscoggin, Hudson, Deleware, Potomac Missisipi, Missisouri, St. Lawrence, Arkansas, Red, Ohio, Columbia, Ria Del Norto.

10. Missisippi River Missisouri River Ohio River Delaware River Connecticut River Kennebec River.

DUDLEY SCHOOL.

1. Mississippi, Missouri, Ohio, Arkansas, Red, Del Norte, Colarado St. Lawrence, Oregon and Mackenzie.

2. Mississippi Missouri Ohio Tenessee Kentucky Penobscott Kenebeck Merrimack Connecticut Hudson Susquehannah Deleware Altamaha Potomac James Great Pedee Roanoke Red Arkansas Desmoines Rock Lewis Clarke Platte Wisconsin Detroit Savannah St. Johns Illinois Pearl

3. Mississippi, Missouri, Ohio, Hudson, Potomac, Susquehanna, Red, Mackenzie, St Lawrence, Connecticut, Savannah.

4. Mississippi Missouri Ohio Savanah Santee St. Law-

rence Tennessee Alegany Alabama Catawba Ocmulgee Big black

5. Mississippi Missouri Lewis, Clarks, Androscoggin, Connecticut, Hudson, St. Lawrence, Red Platte Roanoke Tar, Neuse Lumber Yadkin, St John Me. Arkansas Ohio Rio del Norte, Colerado.

6. Mississippi, Missouri, Arkansas, Ohio, Kentucky, Tennessee.

7. Mississippi, Missouri Arkasas, Red Hudson, Connecticut, Ohio, Tennessee, Kentucky, St. Lawrence Susquehanna, La Platte Rio del norte.

8. Mississippi Missouri Ohio Red Arkansas. St Lawrance, Cumberland. Alabama Susquehannah Mowhawk. Hudson. Nuse. Tar. Alleghany Monongahela Savannah. Colorado. Rio-del. Norte. Platte.

9. Mississippi, Missouri, Ohio, Arkansas, Red, Connecticut. Kentucky, Platte, Osage Yellow &c.

10. Mississippi, Missouri, Ohio, Arkansas, St. Lawrance, Tennessee, Kentucky, Yellow stone, and Colarado.

III. *Name the rivers running eastward into the Mississippi.*

CITY SCHOOL.

1. Tennessee, Cumberland.
2. Missouri, Arkansas, Red
3. Missouria, Arcansas, Red,
4. Ohio, Illinois
5. Ohio
6. Not answered.
7. Ohio,
8. Tennessee, Cumberland,
9. Illinois, Ohio, Kentucky.
10. Ohio River, Tennesee River Cumberland, Kennytucky River.

DUDLEY SCHOOL.

1. Missouri, La Platte, Konza, Red, Arkansas.
2. Wisconsin Illinois Ohio Platte Kansas
3. Missouri, Red, White
4. Missouri Yellow—Stone Red
5. Missouri, Red, Arkansas
6. Ohio, Arkansas
7. Missouri, Red, Des Moines, Arkansas.
8. Missouri, Red, Arkansas.
9. Missouri, Arkansas and Red.
10. Arkansas, Missouri, Red.

IV. *Name the rivers running westward into the Mississippi.*

CITY SCHOOL.

1. Missouri Arkansas
2. Ohio,
3. Ohio, Cumberland, Tennessee
4. Red, Arkansas
5. Missoura
6. Not answered.
7. Missouri, Arkansas,
8. Red, Missouri,
9. Missisouri, Arkansas, Red,
10. Missouri River Red River Arkansas River.

DUDLEY SCHOOL.

1. Ohio Yazoo, Big black, St Francis.
2. Missouri Arkansas Red Desmoines Platte Great fish
3. Ohio, Illinois, Yazoo, Black
4. Ohio, Tennessee, Black stone.
5. Ohio Kentucky Illinois.
6. Red Miszouri,
7. Ohio, Tennessee,
8. Ohio.
9. Ohio, Kentucky, Illinois
10. Ohio, Tennessee, Kentucky,

V. *Name the states which lie upon each bank of the Mississippi, and their capitals.*

CITY SCHOOL.

1. Did not answer.
2. On the west bank lie Missouri the capitol of which is Jefferson, Arkansas, Capitol, Little Rock. On the west, Illinois. capitol, Springfield, Kentucky, Frankfort capital
3. Ilinois. Capital. springfield. Missouria. Capital. Jefferson. Arcansas. Capital, Little Rock, Mississippi. Capital Jackson. Tennessee. Capital Nashville. Kentucky. Capital. Frankfort.
4. Mississippi—Jackson Mississouri—Jefferson Arkansas Little Rock Louisianna New Orleans Illinois Springfield.
5. Did not answer.
6. Louiseanna Mississippi Mississouri Arkansas New Orleans Jackson Jefferson Little Rock
7. of Maine, Augusta. of N. Hampshire. Concord. of Vermont, Montpelier. of Massachusetts, Boston. Rhode Island, Providence and Newport. Connecticut, Hartford and New Haven, N. York, Albany N. Jersey, Trenton. Pennsylvania, Harrisburg. Delaware, Dover. Maryland. Annapolis. Virginia, Richmond. N. Carolina, Rahleigh. S. Carolina, Columbia. Georgia Millidgeville. Alabama, Tuscaloosa, Missisippi, Jackson. Missouri, Jefferson City. Louisiana, N. Orleans, Tennesee, Nashvile
8. of Maine, Augusta
9. Louisiana, N. Orleans Missisouri, Jefferson city, Arkansas, Little Rock, Tennesee, Nashville Kentucky, Frankfort, Missisipi, Jackson
10. Missisouri. Capital, Jefferson City. Louisiana. Capital, New Orleans. Kennytucky. Capital Frankfort Tennesee Capital Nashville Arkansas Capital Little Rock

DUDLEY SCHOOL.

1. Louisiana, Mississippi, Tennessee Illinois
2. Illinois Tenesee Kentucky Mississippi Texas Arkansas The capital of Illinois is Springfield of Ten-

esee is Nashville of Kentucky is Frankfort of Mississippi is Jackson of Arkansas is Little Rock of Texas is Washington

3. Illinois, Capital Springfield, Kentucky, capital Frankfort, Tennessee capital Nashville, Mississippi, capital, Jackson, Louisiana New Orleans, Arkansas, capital Little Rock, Missouri, capital Jefferson City.
4. On the east bank are Illinois, Tennessee, Mississippi, the capital of Illinois is Springfield of Tennessee is Nashville of Mississippi is Jackson. On the west bank are arkansas, Missouri Louisiana, the capital of Arkansas is Little Rock of Missouri Jefferson City of Louisiana is New Orleans.
5. Louisana Capital, New Orleans Mississippi—Jackson Tennessee—Nashville Kentucky—Frankfort Illinois—Springfield. Missouri—Jefferson city—Arkansas—Little rock.
6. Tennessee Kentucky Missouri Arkansas Nashville Frankfort Andianapolis Little Rock
7. Illinois, Kentucky, Tenessee, Mississippi Louisiana Missouri, Arkansa. Capital of Illinois is Vandalia, of Kentucky is Frankfort of Tennessee is Nashville, of Mississippi is Jackson, of Louisana is New Orleans, of Missouri is Jefferson-City, of Arkansas is Little Rock ;
8. Mississippi. Jackson. Tennessee. Nashville. Missouri. Jefferson City Louisiana. New. Orleans. Kentucky. Frankfort. Indiana. Springfield
9. Indiana Indianapolis Illinois Springfield Tennessee Nashville Kentucky Frankfort Louisiana New Orleans
10. Indiana. Cap. Indianapolis. Missouri. Cap. Missouri. Arkansas. Cap. Little Rock, Louisiana. Cap. New Orleans. Mississippi. Jackson

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VI. *Do the waters of Lake Erie run into Lake Ontario, or the waters of Ontario into Erie?*

CITY SCHOOL.

1. Did not answer.
2. Did not answer.
3. The waters of Ontario into Lake erie
4. Did not answer.
5. Ontario into Erie
6. Lake Ontario into Lake Erie
7. Lake Erie into Lake Ontario
8. Did not answer.
9. Into Lake Ontario.
10. Did not answer.

DUDLEY SCHOOL.

1. The waters of Lake Erie run into Lake Ontario.
2. The waters of Lake Erie run into Lake Ontario.

3. The waters of Lake Erie into lake Ontario.
4. The waters of lake Erie into Ontario.
5. Lake Erie into Lake Ontario
6. The waters of Lake Erie run into Lake Ontario.
7. Those of Lake Erie flow into Lake Ontario
8. Those of Lake Erie into those of Lake Ontario
9. The waters of lake Erie run into lake Ontario
10. The waters of Lake Erie run into Lake Ontario.

VII. *Which is most elevated above the level of the sea, Lake Superior or Lake Huron?*

CITY SCHOOL.

1. Did not answer.
2. Did not answer.
3. Lake Superior
4. Did not answer.
5. Superior
6. Lake Superior
7. Lake Superior
8. Lake Superior
9. Lake Superior
10. Lake Superior

DUDLEY SCHOOL.

1. Lake Superior.
2. Lake Superior.
3. Lake Superior.
4. Lake Superior.
5. Lake Superior.
6. Did not answer.
7. Lake Superior
8. Lake Superior
9. Did not answer.
10. Lake Superior.

VIII. *Write down the boundaries of Lake Erie.*

CITY SCHOOL.

1. Did not answer.
2. Lower Canada, New York
3. Did not answer.
4. Did not answer.
5. North by Cannada
6. Did not answer.
7. Did not answer.
8. Did not answer.
9. N. York. Pennsylvania. Ohio.
10. North by Upper Canada, east by New York south by Ohio west by Michegan

DUDLEY SCHOOL.

1. Did not answer,
2. On the north by Canada on the east by lake Ontario and New-York, On the south by New York, on the west by Michigan.
3. Bounded on the north by Canada, on the east by New York and Canada, on the south by New York and Pennsylvania, on the west by Canada.
4. It is bounded on the North by Canada, on the East by Lake Ontario and New York on the South by New York, and on the West by Lake Huron and New York.
5. on the North by Canada, south by New York, Pensylvania, and Ohio.
6. Did not answer.
7. North by Canada, East by N York, south by Penn-

sylvania & Ohio, west by Michegan.

8. On the North by Canada on the East by New York On the South by New York an Pennsylvania West by
9. On the north by Canada South by New York Pensylvania and Ohio
10. Is bounded on the north by Canada, on the south by Ohio, on the east by Lake Ontario and the west by ——————— Niagara River.

IX. *Quebec is, (according to your maps) four degrees and forty minutes north from Boston; Ithaca, in New York, is five degrees and thirty minutes west from Boston. Which place is farthest from Boston?*

CITY SCHOOL.

1. Did not answer.
2. Quebec
3. Ithaca
4. Quebec
5. Did not answer.
6. Alike
7. Did not answer.
8. Did not answer.
9. Did not answer.
10. Ithica New York

DUDLEY SCHOOL.

1. Quebec.
2. Quebec.
3. Ithaca.
4. Ithica.
5. Ithaca.
6. Ithaca
7. Quebec.
8. Ithaca
9. Ithaca
10. Quebec.

X. *What is the general course of the rivers in North and South Carolina?*

CITY SCHOOL.

1. Did not answer.
2. S, East
3. They flow south Eeast
4. South East
5. East
6. South East
7. South
8. South east
9. South East
10. East

DUDLEY SCHOOL, ROXBURY.

1. East or South east.
2. South East
3. South East.
4. South East.
5. South East.
6. Nearly South
7. South East and East
8. East and South East
9. South East
10. Easterly or South. Easterly.

XI. *What is the general course of the rivers in Kentucky and Tennessee?*

CITY SCHOOL.

1. Did not answer.
2. Did not answer.
3. North West
4. Did not answer.
5. West
6. Did not answer.
7. Did not answer.
8. Did not answer.
9. N. West
10. West

DUDLEY SCHOOL, ROXBURY.

1. West.
2. North
3. Did not answer.

4. North East.
5. South west.
6. West
7. west and North West,
8. West
9. North West
10. Westerly,

XII. *What is the cause of the rivers in these four contiguous States running in opposite directions?*

CITY SCHOOL.

1. Did not answer.
2. Did not answer.
3. Did not answer.
4. Did not answer.
5. Did not answer.
6. Did not answer.
7. Did not answer.
8. Did not answer.
9. Did not answer.
10. Did not answer.

DUDLEY SCHOOL.

1. Because there are mountains between them.
2. The difference of their elevation
3. North westerly.
4. They commence and run
5. the elevation between.
6. situation of the mountains in which they rise.
7. because the land is higher in the interior of the country where these rivers rise
8. They are surrounded by mountains and rivers always flow down hill.
9. Did not answer.
10. Because they take their rise in the Allegany mountains, and they are on opposite sides of the mountains.

XIII. *Which is most accessible, in its interior parts to ships and to commerce, Europe or Africa?*

CITY SCHOOL.

1. Did not answer.
2. Europe.
3. Did not answer.
4. Europe.
5. Did not answer.
6. Europe.
7. Did not answer.
8. Did not answer.
9. Africa.
10. North and south Carolina

DUDLEY SCHOOL.

1. Europe.
2. Europe.
3. Europe.
4. Europe.
5. Europe.
6. Europe.
7. Africa.
8. Africa.
9. Europe.
10. Europe.

XIV. *Name the Empires of Europe.*

CITY SCHOOL.

1. Did not answer.
2. Russia, Austria Prussia,
3. Russia Austria Turkey
4. Birman
5. Russia. Austria Turkey
6. Did not answer.
7. Did not answer.
8. Russia.
9. Russia, Austria, Prussia
10. Russian Empire Austrian Empire Turkish Empire.

DUDLEY SCHOOL.

1. Russia, Austria, Germany, Turkey.
2. Germany

3. Russia, Austria, Turkey, Greece
4. Austria, Prusia, Italy, Russia
5. Russia. Austria. Prussia. Turkey. Poland.
6. Austria Russia
7. Russian empire, Austrian empire, Great Britian,
8. Russian Austrian Turkish, British
9. Rusia Austria Prusia Turkey
10. Austria, Prussia, Russia.

XV. *Name the kingdoms of Europe.*

CITY SCHOOL.

1. Did not answer.
2. Great Britain France Spain
3. England. France Spain. Great Brittian
4. Sardinia, Saos.
5. Great Brittian. France Spain,
6. Did not answer.
7. Did not answer.
8. Denmark,
9. Great Britian
10. France Spain Great Britian

DUDLEY SCHOOL.

1. Great Britain, France, Spain, Portugal, Italy, Prussia Denmark, Sweden, Norway.
2. Prussia Denmark France Spain
3. France, England, Spain, Portugal, Germany, Italy.
4. France, Spain, Portugal, Norway, Sweden, Great Britan
5. England Ireland Scotland. France Spain German States
6. France Spain Portugal
7. France Spain Portugal Itily, Greece, Denmark.
8. Norway Sweden Denmard Holland Belgium France Spain Portugal, Italy, Germany, Prussia. Greece
9. England France Spain Portugal Denmark Saxony Hanover Belgium
10. Italy. France, Spain, Great Britain, Portugal.

XVI. *Name the Republics of Europe.*

CITY SCHOOL.

1. Did not answer.
2. Did not answer.
3. Did not answer.
4. Did not answer.
5. Switzerland
6. Did not answer.
7. Did not answer.
8. Did not answer.
9. Saxony, Wurtemburg
10. Germany Italy

DUDLEY SCHOOL.

1. Switzerland.
2. Switzerland
3. Switzerland
4. Greece Switzerland
5. Switzerland
6. San Marino
7. Switzerland, Some of the German States
8. Switzerland
9. Switzerland Cracow
10. Switzerland

XVII. *What is the nearest route from England to India, by the Cape of Good Hope, or by the Red Sea?*

CITY SCHOOL.

1. Cape of good hope.
2. Cape of Good Hope

3. Did not answer.
4. Cape of Good Hope
5. By the Cape of good hope
6. Did not answer.
7. Did not answer.
8. by the Cape of Good hope
9. Cape of Good Hope
10. Did not answer.

DUDLEY SCHOOL.

1. By the Red Sea
2. By the cape of Good Hope
3. By the Red sea.
4. By the Red Sea.
5. by the Red Sea.
6. By the Cape of Good Hope.
7. by the red sea
8. By the Red Sea
9. By the Red sea
10. By the Red Sea

XVIII. *What do you understand by the line of Perpetual Snow?*

CITY SCHOOL.

1. Did not answer.
2. Did not answer.
3. Did not answer.
4. Did not answer.
5. Did not answer.
6. Did not answer.
7. Did not answer.
8. Did not answer.
9. Did not answer.
10. Did not answer.

DUDLEY SCHOOL.

1. The height where snow is always found.
2. Did not answer.
3. I do not know.
4. I do not know.
5. Those places covered with snow during all the year
6. The place which seperates those parts which are covered with perpetual snow from warmer countries.
7. the place where the ground is covered with snow every season of the year
8. That mountains are covered with snow.
9. Places covered with snow all the year
10. The line beyond which is perpetual snow.

XIX. *On which range of mountains is the line of perpetual snow most elevated above the ocean, on the Rocky Mountains of North America, or on the Cordilleras of Mexico?*

CITY SCHOOL.

1. Did not answer.
2. Did not answer.
3. Rocky Mountains
4. Did not answer.
5. Did not answer.
6. Rocky
7. Did not answer.
8. Did not answer.
9. Did not answer.
10. Did not answer.

DUDLEY SCHOOL.

1. The Cordilleras of Mexico
2. On the Rocky Mountains
3. Rocky.
4. I do not know,
5. on the Rocky Mountains
6. On both the same—
7. Rocky Mountains
8. Rocky Mountains
9. On the Rocky
10. Cordilleras.

XX. *The city of Mexico is in 20 degrees of north latitude; the city of New Orleans is in 30 degrees of north latitude. Which has the warmer climate?*

CITY SCHOOL.

1. Did not answer.
2. Did not answer.
3. Did not answer.
4. Did not answer.
5. New Orleans
6. New Orleans
7. New Orleans.
8. Did not answer.
9. The city of Mexico
10. New Orleans

DUDLEY SCHOOL.

1. New Orleans.
2. Mexico
3. Mexico.
4. Mexico
5. Mexico.
6. Mexico.
7. Mexico.
8. Mexico
9. Mexico
10. Mexico.

XXI. *Name the rivers, gulfs, oceans, seas, and straits through which a vessel must pass in going from Pittsburg, in Pennsylvania, to Vienna, in Austria.*

CITY SCHOOL.

1.
2.
3.
4. } Did not answer.
5.
6.
7.
8.
9. Atlantic ocean, Mediterranean Sea, Gulf of Venice, Strait of Gibraltar, Alleghany river
10. Did not answer.

DUDLEY SCHOOL.

1. Down the Ohio, Down the Mississippi through the gulf of Mexico, Across the Atlantic ocean, through the straits of Gibraltar, through the Mediterranean Sea I can conduct it no farther.
2. Did not answer.
3. Susquehanna, Delaware, Danube rivers, Atlantic ocean, gulf of Tarento, Mediterranean sea and Black sea, straits of Giberalter and Dardanelles.
4. I do not know.
5. Did not answer.
6. Susquehannah river Deleware Bay Atlantic, Mediterranean Sea
7. Ohio River Mississippi River, Gulf of Mexico, Atlantic Ocean, &c
8. Did not answer.
9. Did not answer.
10. The Ohio River, Gulf of —— Atlantic Ocean, Mediterranian sea, straits of Gibralter.

XXII. *On which bank of the Ohio is Cincinnati; on the right or the left?*

CITY SCHOOL.

1. Did not answer.
2. Did not answer.
3. Right
4. Did not answer.
5. Right
6. Did not answer.
7. Did not answer.
8. Did not answer.
9. Right
10. Right

DUDLEY SCHOOL.

1. The right.
2. On the right,

3. Right Bank.
4. On the right bank.
5. Left
6. Right
7. Right
8. Right
9. Right
10. On the right bank.

XXIII. *What are the principal natural and artificial productions of New England?*

CITY SCHOOL.

1. Did not answer.
2. Did not answer.
3. Did not answer.
4. Did not answer.
5. Did not answer.
6. Grass Wheat
7. Did not answer.
8. Did not answer.
9. Hemp, Barley, Oats Flax, Tobacco, Cotton, Rice, Sugar.
10. grass

DUDLEY SCHOOL.

1. Wheat, rye, barley, apples, pears, peaches, nuts, *all sorts* of artificial productions.
2. Did not answer.
3. Wheat, rye, corn, apples, pears, peaches, plums,
4. Wheat, Potatoes, Corn, Oats and Barley.
5. Did not answer.
6. Wheat, Corn, Rye
7. Grass Wheat Corn, Rye, Potatoes, Cotton and wollen Goods Paper, &c.
8. Granite. Marble. Slate. Cotton and linen goods woolen goods. Paper, Glass
9. Did not answer.
10. natural productions are gold and silver, copper and coal. Wheat, corn, rye, & potatoes,

XXIV. *Over what continents and islands does the line of the Equator pass?*

CITY SCHOOL.

1. Did not answer.
2. Did not answer.
3. South America Africa
4. Did not answer.
5. South America. Europe. Asia Madagascer
6. Africa Holland Madagasca
7. Did not answer.
8. Did not answer.
9. The continent of N. & S, Amirica, Africa, and the Islands of Sumatra, Borneo Celebes.
10. Did not answer.

DUDLEY SCHOOL.

1. South America, Africa, Australia,
2. The eastern & Western continents Sumatra Borneo Celebes
3. South America, Africa, through the islands of Borneo, Celebes, Java,
4. America, Africa, Australia,
5. America. West India Islands Europe Asia Africa Ocianica
6. South America, Africa,
7. South America, Africa, Sumatra, Formosa, Borneo,
8. South America, Africa Borneo Sumatra
9. North America Africa & Oceanica
10. Africa and West India Islands. and the East India Islands Asia,

XXV. *What parts of the globe have the longest days?*

CITY SCHOOL.

1. Not answered.
2. Not answered.
3. Not answered.
4. Not answered.
5. Not answered.
6. Not answered.
7. Not answered.
8. Not answered.
9. Not answered.
10. Those south of the equator

DUDLEY SCHOOL.

1. The polar regions
2. United States
3. Temperate Regions.
4. Parts near the Poles.
5. Those situated near the equator.
6. The Poles
7. those parts at the poles
8. Frigid Zones
9. Did not answer.
10. The Temperate Zonees.

XXVI. *If a merchant in Moscow dines at 3 o'clock, P. M., and a merchant in Boston at 2 o'clock, P, M., which dines first?*

CITY SCHOOL.

1. Did not answer.
2. Did not answer.
3. Did not answer.
4. Did not answer.
5. Did not answer.
6. Moscow
7. Did not answer.
8. Did not answer.
9. Did not answer.
10. The merchant in Boston

DUDLEY SCHOOL.

1. The merchant in Moscow.
2. The merchant in Moscow
3. Merchant at Boston.
4. Moscow
5. Did not answer.
6. The merchant of Moscow
7. The merchant in Moscow.
8. Merchant in Moscow.
9. Did not answer.
10. The merchant in Moscow.

XXVII. *Name the countries which lie around the Mediterranean Sea.*

CITY SCHOOL.

1. Did not answer.
2. Greece, Italy
3. Did not answer.
4. Did not answer.
5. Italy
6. Italy. Turkey
7. Europe, Africa, Asia
8. Did not answer.
9. France, Italy Turkey, Spain
10. France Spain Italy

DUDLEY SCHOOL.

1. Spain, France, Italy, Turkey, Barbary, Egypt.
2. Spain France Italy Turkey Greece Morocco Algiers Tunis Tripoli Egypt
3. Spain, France, Italy, Turkey, Greece.
4. Barbary, Spain, France, Italy,
5. Spain, France. Italy. Turkey. Morocco Algiers Tunis Tripoli Great Desert
6. Spain, France, Italy, and Greece
7. France, Spain, Itily Greece,
8. Spain. France. Italy. Greece. Morrocco. Egypt. Tripoli. Turkey in Asia.
9. Did not answer.
10. Spain, Portugal, Italy, Turkey, Egypt, Morocco Tunis, and Tripoli

XXVIII. *What countries lie around the Black Sea?*

CITY SCHOOL.

1. Did not answer.
2. Turkey
3. Did not answer.
4. Did not answer.
5. Austria Turkey
6. Did not answer.
7. Did not answer.
8. Did not answer.
9. Russia, Austria
10. Turkey and Russia

DUDLEY SCHOOL.

1. Turkey Austria Russia.
2. Russia Turkey Greece
3. Turkey and Russia.
4. Russia, and Austria.
5. Russia, Turkey
6. Russia, Prussia and Austria.
7. Russia, Turkey, in Europe Turkey in Asia.
8. Russia. Turkey in Europe and Turkey in Asia.
9.
10. Russia, Turkey. Austria.

XXIX. *What rivers flow into the Black Sea?*

CITY SCHOOL.

1. Did not answer.
2. Did not answer.
3. Danube
4. Did not answer.
5. Dnieper Dniester
6. Don
7. Did not answer.
8. Dnieper and Dniester
9. Dnieper Dniester
10. Danube, Dneiper

DUDLEY SCHOOL.

1. Danube Dnieper Dniester, Bog.
2. Don Danube Dniester Bog Dnieper
3. Danube, Don, Volga, Ural.
4. Danube, Dniester, Dnieper.
5. Danube Bog Dnieper
6. Volga, Don, Dneiper, Danube, Dneister, Bog,
7. Danube, Dneiper, Bog, Dniester,
8. Don. Dneiper. Dneister. Danube
9. Dniester Dnieper Bog Danube
10. Danube, Don, &c.

XXX. *Name the principal Port of Russia on the Black Sea, on the White Sea, and on the Gulf of Finland.*

CITY SCHOOL.

1. Did not answer.
2. Did not answer.
3. Did not answer.
4. Did not answer.
5. Sp Petersburg on the gulf of Finland
6. Did not answer.
7. Did not answer.
8. Did not answer.
9. Odessa, Moscow, St. Petersburgh
10. St Petersburgh on the gulf of Finland

DUDLEY SCHOOL.

1. On the gulf of Finland is St. Petersburg. I do not know the others.
2. Did not answer.
3. Odessa on the Black sea, Archangel on the White, Riga on the Gulf of Finland.
4. Petersburge on the Gulf of Finland.
5. St. Petersburg
6. Odessa, Archangel, Riga,
7. Cronstadt

8. Odessa Cronstadt
9. St Petersburg on the Gulf of Finland
10. Petersburg on the Gulf of Finland,

XXXI. *Draw an outline map of Italy.*

CITY SCHOOL.

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

Did not attempt it.

DUDLEY SCHOOL.

1. Succeeded.
2. Attempted and failed.
3. Attempted and failed.
4. Attempted and failed.
5. Succeeded.
6. Attempted and failed.
7. Succeeded.
8. Attempted and failed.
9. Succeeded.
10. Succeeded.

TABLE XII,

Showing the Relative Rank of each School in the "allowed studies."

PHILOSOPHY.		ASTRONOMY.	
Bowdoin, - - -	.0324	Johnson, - - -	.0216
Wells, - - -	.0315	Hawes, - - -	.0200
Mayhew, - - -	.0155	Franklin, - - -	.0135
Hawes, - - -	.0140	Mather, - - -	.0132
Brimmer, - - -	.0133		
Mather, - - -	.0116		
Otis, - - -	.0114		
Franklin, - - -	.0099		
Johnson, - - -	.0096		
Boylston, - - -	.0093		
Hancock, - - -	.0092		

TABLE XIII,

Showing the comparative ages of the classes examined in each School.

Phillips, -	12 yrs. 8 mos.	Hancock, -	13 yrs. 9 mos.
Eliot, - -	12 " 8 "	Hawes, -	13 " 9 "
Adams, -	12 " 11 "	Boylston, -	14 "
Brimmer, -	13 "	Franklin, -	14 " 6 "
Endicott, -	13 "	Mather, -	14 " 6 "
Otis, - -	13 " 2 "	Winthrop, -	14 " 6½ "
Wells, - -	13 " 3 "	Bowdoin, -	14 " 8 "
Mayhew, -	13 " 6 "		
Johnson, -	13 " 6½ "	Dudley, -	14 " 6 "

It will be seen by the two last Tables that Natural Philosophy had been studied in eleven Schools, and Astronomy in four out of the eleven. An allowance, therefore, should be made in their favor, but it is difficult to make it in this table, for some Schools which did not offer classes for examination in Astronomy because they had not studied it, might still have given a considerable number of correct answers if they had been examined. The reader, bearing this in mind, and also the comparative ages of the scholars, will draw his own inference as to the *real comparative rank* of the Schools; and consider the following and final table, as he must the others,—elements for the calculation.

TABLE XIV,

Of the Relative Rank of all the Schools, in each of the Required Studies, as shown by their answers to the printed questions.

HISTORY.		GEOGRAPHY.		DEFINITIONS.		GRAMMAR.		TOTAL AMOUNT.	
Bowdoin,	.0384	Wells,	.0387	Bowdoin,	.0368	Bowdoin,	.0440	Bowdoin,	.1536
Adams,	.0295	Bowdoin,	.0344	Wells,	.0342	Johnson,	.0414	Wells,	.1386
Wells,	.0261	Adams,	.0342	Boylston,	.0280	Wells,	.0396	Adams,	.1214
Boylston,	.0190	Hancock,	.0333	Eliot,	.0275	Adams,	.0305	Johnson,	.0954
Brimmer,	.0182	Winthrop,	.0276	Adams,	.0272	Hancock,	.0288	Winthrop,	.0954
Winthrop,	.0174	Johnson,	.0252	Winthrop,	.0222	Phillips,	.0288	Boylston,	.0920
Eliot,	.0170	Brimmer,	.0248	Brimmer,	.0165	Winthrop,	.0282	Hancock,	.0900
Johnson,	.0162	Boylston,	.0234	Johnson,	.0126	Franklin,	.0235	Eliot,	.0764
Mayhew,	.0156	Eliot,	.0215	Hancock,	.0126	Boylston,	.0216	Brimmer,	.0731
Hancock,	.0153	Endicott,	.0174	Franklin,	.0110	Hawes,	.0212	Franklin,	.0630
Franklin,	.0130	Mayhew,	.0168	Mather,	.0108	Endicott,	.0192	Mather,	.0568
Mather,	.0120	Phillips,	.0165	Mayhew,	.0085	Mather,	.0184	Mayhew,	.0565
Hawes,	.0096	Mather,	.0156	Hawes,	.0080	Mayhew,	.0156	Phillips,	.0557
Endicott,	.0084	Franklin,	.0155	Endicott,	.0070	Brimmer,	.0136	Hawes,	.0520
Otis,	.0054	Hawes,	.0132	Phillips,	.0064	Eliot,	.0104	Endicott,	.0520
Phillips,	.0040	Otis,	.0108	Otis,	.0055	Otis,	.0060	Otis,	.0277
Smith,	.0000	Smith,	.0055	Smith,	.0000	Smith,	.0015	Smith,	.0070
Dudley,	.0336	Dudley,	.0440	Dudley,	.0360	Dudley,	.0408	Dudley,	.1544

REPORT OF THE COMMITTEE

APPOINTED TO MAKE THE

ANNUAL EXAMINATION

OF THE

WRITING SCHOOLS.

CITY OF BOSTON.

In School Committee, May 6, 1845.

Ordered, That Messrs. Brigham, Coolidge and Graves, be a Committee to make the annual examination of the several Writing Schools, and report at the quarterly meeting in August.

Attest, S. F. McCLEARY, *Secretary.*

The Committee, who were directed to make the annual examination of the several Writing Schools, respectfully

REPORT:

That they have given the subject committed to their charge the attention which its importance seemed to demand.

They have visited all the schools, now numbering nineteen, and have endeavored, from personal examination to learn their present condition,and to ascertain how far this branch of our system of instruction answers the just expectations of the public.

By the present organization of the schools, five are exclusively for girls, six for boys, and eight for girls and boys. The girls are allowed to attend from seven years of age till the next annual exhibition after they shall have arrived to the age of sixteen. The boys leave two years earlier. Sixteen of the schools are divided into two departments, called the Grammar and Writing departments, between which the pupil's time is equally divided. Practically these divisions constitute separate schools, for each has its distinct teachers, and each is perfectly independent of the other. The only claim which the two departments have to any connection, is in the fact that the same pupils are half of the time in each, and are half of the time absent from each, and that both departments are called by the same name. In the Lyman, New South, and Smith schools, this division has not been made.

These schools possess various degrees of merit. Some are of a high order, and do credit both to the teachers and the taught. Others are of a different class, and, in the opinion of the Committee, do not possess the character and standing which the citizens have a right to expect from all their schools, so liberally sustained, and so important to the well-being of society. This difference arises in some cases from local circumstances beyond the control of the teachers, and in others, from the zeal, capacity or efforts of the teachers themselves. Some of the schools,—such as the Otis and New South,—have been lately organized, and have not as yet any distinctive character given them by their present teachers. They are composed chiefly of pupils taken from other schools, and from them we learn the present state of public instruction in the city, rather than the progress which they have made under their present instructers. The zeal and capacity which the masters in both of those schools exhibit, will, it is believed, in a proper time, give them a high character, and gain for them a large share of public favor. The committee were required to examine the first class only, and in most cases they limited their inquiries to this class. This generally constitutes about one fifth part of the school, and is composed of children between the ages of eleven and sixteen. It is believed that the average age of the first class in all the schools is about twelve or thirteen years. The first division of this class, which generally comprises from one-fifth to a quarter of the whole, average about fourteen years. The studies pursued are, Arithmetic, Algebra, Geometry, Writing and Book-keeping. The rules of the Board also require instruction to be given in pen making. Since, however, the introduction of steel pens in all the schools, this has become less necessary, and with the exception of two or three, no instruction whatever is given in this once necessary department of a writing school. It is believed, however, that until the use of steel pens shall have become universal, it would be expedient and desirable for each writing master to give instruction in pen making to those of his first class, who may require it. Algebra and Geometry are not made necessary studies by the rules, but are permitted in such cases as are thought expedient. For this reason Algebra is studied in only about two-thirds of them, and Geometry in only two, viz: the Hancock and Bowdoin.

From thirty minutes to one hour each day is devoted to writing by all the pupils of each class. In most of the schools one hour is spent in this way. Printed or engraved copies are generally used, though in many cases, for the younger children, they are written by the teacher. Writing books and pens are furnished by the teacher, and paid for by the pupils at a fixed price. This is believed to be general. The writing books are furnished the pupils at a price varying from six to twelve cents each, and the pens are provided for two or three cents per month.

The city supplies all the schools with ink. In several of the schools "Root's" system of writing has been introduced, and, so far as the Committee could learn, has been attended with good success. The best experiment in this system was seen at the Brimmer school, which, in this branch of instruction, the Committee place at the head of the schools.

In forming an estimate of the relative rank of the several schools in writing, the Committee confined themselves wholly to the specimens offered by the first class. The highest mark given by them was 12, and the rank assigned to each in this branch, is as follows:

Eliot,		10
Endicott,	Girls,	12
	Boys,	7
Hancock,		10
Mayhew,		6
Otis,		6
Wells,		9
Bowdoin,		11
Smith,		4
Phillips,		9
Adams,		6
Boylston,	Girls,	12
	Boys,	9
Franklin,		9
New South,		5
Brimmer,		12
Johnson,		9
Hawes,		8
Mather,		10
Winthrop,		9
Lyman,		10

So far as relates to the writing in the schools, the Committee have no suggestions to make.

It is not desirable to have entire uniformity in the mode of instruction in all of them. It is believed to be better to leave each teacher to adopt such improvements, from time to time, as he shall judge expedient. Much must be left to his own judgment, and his instruction must be varied according to the capacity and acquirements of the learner. The present mode of furnishing pens and writing books seems as free from objections as any which could be adopted. It is necessary to have uniformity in the books of each school, and it is also necessary to have those of a proper quality. Neither of these objects could be obtained, if each pupil purchased his book wherever he pleased. The masters purchase them much cheaper by the quantity, and selling them as they undoubtedly do to their pupils at cost, they are obtained at a much less price than single copies could be purchased at the stores. It is necessary to continue this system, or else have all the books purchased of some individual at a fixed price, under a contract made by the city. The latter plan would take some labor from the masters, but its advantages would hardly compensate for the increased trouble which it would give the pupils.

The Committee commenced their examination early in June, and continued the same, from time to time, to the middle of July. In Arithmetic, they examined the pupils by submitting printed questions for their solution, and also by propounding questions orally. Before, however, they state the result of that examination, they propose to give, in detail, certain facts and statistics relative to each school. They begin with the

ELIOT SCHOOL.

This school is located in North Bennet street—was established in 1713—has connected with it 470 boys. Its present master has been in the school 20 years. During the last six months, 215 pupils have been admitted, and 177 discharged, owing chiefly to a change in the limits of the districts. Eighty pupils belong to the first class. Twenty-seven study Book-keeping, but none study Algebra or Geometry. The first class have been "through the first thirty-seven articles in Emerson's Third Part." The school house has no recitation rooms. The pupils are younger than in several of the other schools, and appear to have made greater progress in writing than in arithmetic. In Book-keeping their acquisitions seem to have been very limited.

ADAMS SCHOOL

Was established in 1717, and is located in Mason street. It has connected with it 420 boys. The building in which the school is kept is badly situated, has no recitation rooms, and is wholly unfit for the school. Seventy-two constitute the first class, a part of whom have gone through the Third Part of the Arithmetic. None study algebra. The present teacher took charge of the school in December, 1833. Several changes have been made in it during the last six months. Sixty-three of the first class have been discharged and seventeen admitted.

FRANKLIN SCHOOL

Is located in Washington street, and was established in 1785. It is a school for girls, and has 411 belonging to it. The first class consists of 40. Eleven have been through Bailey's Algebra, and nine study Book-keeping. The first class have been through the Third Part of the Arithmetic. The present master has been connected with the school seven years. This school has been somewhat broken up the last year by reason of the School House having been burned.

MAYHEW SCHOOL

Is located in Hawkins street, and was established in 1803. It is a school for boys—has 373 pupils. The school house is inconvenient, and has no recitation rooms. There are fifty-four in the first class. Eighteen study Algebra; none Book-keeping. The first class have been through forty chapters of the Third Part of the Arithmetic. The present master has been connected with the school since December, 1833. Since September last, 120 have been discharged from the first class and sixty admitted.

HAWES SCHOOL

Was established in South Boston in 1811, and has 424 boys and girls connected with it. Twenty-four study Book-keeping, and none Algebra. The first division of the first class have been in Arithmetic nearly through the Third Part. The present teacher has been in the school ten years.

BOYLSTON SCHOOL

Was established in 1819, and is located on Fort Hill. It is open for both boys and girls, and 547 now belong to it. Nineteen study Algebra, and twenty-two Book-keeping. There are 101 in the first class, the first division of which have gone, in the Third Part of the Arithmetic, to the one hundred and eighty-first page. The present master has been connected with the school four and a half years. The School House needs recitation rooms.

BOWDOIN SCHOOL

Is a school for girls: was established in 1821, and is located in Derne street. At present, 511 belong to it, and there are 143 in the first class. Seventy-five study Algebra, twenty-five Geometry, and sixty Book-keeping. The present master has been connected with this school twenty years, and has been a teacher in the Public Schools of the City thirty-five years. About 150 pupils have been discharged from this school within a few months, to go to other schools.

HANCOCK SCHOOL

Was established in 1822, and is located in Hanover street. Five hundred and forty-nine girls belong to it, one hundred of whom are in the first class. Thirty-eight study Algebra, thirty-eight Geometry, and fifty-one Book-keeping. The present master has been in the School twenty-one years. The school House is inconvenient, and has no recitation rooms. Within a few months, and at the time of the organization of the Otis School, about one fifth part of this school was changed.

WELLS SCHOOL

Is situated in McLean street, and was established in 1833:

was changed, last spring, from a boys' and girls' School, to one exclusively for girls. Four hundred and forty-five now belong to it, and seventy-seven are in the first class. Thirty-five study Algebra and Book-keeping. The first division have been through the Third Part of the Arithmetic. The present master has been in the school seven years.

JOHNSON SCHOOL

Was established in 1833, and is situated in Tremont street. It is exclusively for girls, and has connected with it 504. Twenty-seven study Algebra, and thirty Book-keeping. There are one hundred and thirteen in the first class. The present teacher has been connected with the school about four years.

WINTHROP SCHOOL

Was established in 1836, and is situated in East street. Five hundred and fifty-three boys and girls belong to it. Eighty-one constitute the first class. Twenty study Algebra and Book-keeping. The present master has been connected with the school since 1841.

LYMAN SCHOOL

Is situated in East Boston, and was organized in 1837. Three hundred and sixty boys and girls belong to it. Forty-one belong to the first class. Twenty-eight study Algebra. This school is under the charge of one master, an usher and three female teachers. A division of the school into distinct departments has not been adopted. The present master has been connected with the school eight years. Many changes have taken place in it, and during the past year about three hundred have joined, and two hundred have left it.

ENDICOTT SCHOOL

Is situated in Cooper street, and was established in 1840. The present master has been connected with the school five years. It is for both boys and girls. Five hundred and eighteen belong to it. Eighty-one belong to the first class. Twelve study Algebra. The school has suffered a good deal the past year by a change of pupils.

MATHER SCHOOL

Was established at South Boston in 1843. Four hundred and eighty-five boys and girls belong to to it, of whom fifty-nine are in the first class. Eleven study Algebra, and eight Book-keeping. The present master has been connected with the school since its organization.

BRIMMER SCHOOL

Was organized last year, and is located in Common street. It is a school exclusively for boys, and the number now belonging to it is 532. Nineteen study Algebra and Book-keeping. The present teacher has been connected with the school since its organization. The master instructs some of the pupils in Drawing, out of school hours. Forty constitute the first class.

PHILLIPS SCHOOL

Is situated in Pinckney street, and has 454 pupils. It was established last year. The first class in arithmetic have gone nearly through the third part. The present master took charge of the school in November last. It has been a good deal changed since that time by reason of making the Wells school a girls' school.

OTIS SCHOOL

Is situated in Lancaster street, and was first opened the present year. Four hundred and seventeen boys and girls belong to it. None at present study Algebra. The master instructs several of the older pupils in Drawing, after the usual school hours. There are thirty-seven in the first class.

NEW SOUTH SCHOOL

Is a school for boys, and is at present kept in the vestry of the Suffolk Street Chapel. One hundred and thirty-six belong to it. It has been established but a short time, and is under the control of a master and two female assistants. A new school house is now in process of building in Concord street for this school.

SMITH SCHOOL

Was instituted in 1812, and is designed for the instruction of colored children of both sexes. At the time of the examination, 163 belonged to it. The average attendance since the first of April last has been 109. This school is under the instruction of a master and two female assistants. It is divided into four classes. Twenty-seven are in the first class. Four half days each week are devoted to writing and arithmetic. Of the first division of the first class only five were present, whose average age was twelve years and four months. There seemed to be but few pupils present more than ten or eleven years of age. The present master has been connected with the school eleven years.

The Committee do not hesitate to say that they were disappointed in this school. With but two or three exceptions the pupils had not gone beyond the simplest questions in oral Arithmetic, and on examination they seemed to be unable to answer any thing but the plainest propositions. The school is in a low condition, and does not appear to be answering the objects for which it was instituted. There are, no doubt, great difficulties in the management and instruction of this school, arising from causes which do not affect any other school in the city. The children leave early and as soon as they are able to obtain employment. Those best educated and most capable usually go first.

They often, too, join the school at an advanced age, and without much previous education or discipline. They are inconstant in their attendance, oftentimes tardy, and in many cases exceedingly inattentive to their studies. It is evident that in a school of this character, other and greater efforts are required in its management than in the other city schools. It may not be made to compete with the other schools, yet it is believed that it can be much elevated, that its usefulness may be increased, and that it may be placed on such a footing as to answer the just expectations of its benevolent founder, as well as the rightful claims of the colored population.

The Committee do not deem it their duty to go into a discussion of the causes of the present state of things in this school. Evils do exist which must and ought to find a remedy. The school is not what it ought to be, nor is it what it is believed it can be. The particular measures which shall be adopted for its elevation and improvement, the Committee are not prepared to point out, but will leave them to be devised and adopted by a community always generous in its means to educate and improve its members.

The written examination in Arithmetic was adopted in all the schools except the Smith. It was limited to the first division of the first class, which varied in numbers from four to twenty-six. The Committee prepared ten questions for solution, on a variety of subjects, and caused them to be printed on a single sheet, leaving between each a sufficient blank space to enable the pupils to record the process of solution. The same questions were submitted to all the schools, and the pupils were reqsired to lay aside their books and slates, and work out the proceus on the paper itself. One hour and ten minutes were allowed them, at the expiration of which all the papers were returned to the Committee, whether the questions were solved or not. It was not expected that any considerable number could work out all the sums in so short a time, but it was thought expedient to propose such questions that even those who had made the greatest advancement might find employment during the allotted period. It was also intended to have these questions embrace such a variety of subjects as to require a pretty thorough knowledge of the whole science of arithmetic to give the right answers to them all.

The questions submitted are as follows:

1—How much is $\frac{1}{2}$ of $\frac{1}{3}$ of 9 hours and 18 minutes?

2—What part of 100 acres is 63 acres, 2 roods, and 7 rods?

3—What is the quotient of one ten thousandth, divided by ten thousand? Express the answer in decimal and vulgar fractions.

4—A stationer sold quills at 10*s* 6*d* per thousand, by which he cleared $\frac{1}{3}$ of the price—but the quills growing scarce, he raised the price to 12*s* per thousand. What per cent. would he clear by the latter price?

5—Suppose A owes me $100 due at the end of 3 months, and $100 due at the end of 9 months, and he agrees to give me a note for $200 payable at such a time that its present worth shall be the same as the sum of the present value of the two first mentioned notes. How long after date must this note be made payable?

6—A man has a square piece of ground which contains one quarter of one acre and a quarter, on which are trees, which will make wood enough to form a pile around on the inside of the bounds of the land 3 feet high and 4 feet wide. How many cords of wood are there?

7—A sold goods for $1,500, to be paid for one half in 6 months, and one half in 9 months. What is the present worth of the goods, interest being at 7 per cent.

8—A merchant in New York where interest is 7 per cent. gives his note, dated at Boston, where the interest is 6 per cent. for $5,000, payable at the Merchants' Bank, Boston, on demand. Thirty days after the date of the note demand is made. A year after demand $200 are paid on the note. What sum remains due at the end of two years from the date of the note?

9—What is the square root of $\frac{5}{9}$ of $\frac{4}{5}$ of $\frac{4}{7}$ of $\frac{7}{9}$?

10—The City of Boston has 120,000 inhabitants, half males, and its property liable to taxation is one hundred millions. It levies a poll tax of ⅜ of a dollar each on one half of its male population. It taxes income to the amount of $50,000, and its whole tax is $770,000. What should a man pay whose taxable property amounts to $100,000?

The whole number of children belonging to the schools at the time of the examination was 8,343, of whom 308, comprising the best scholars in each school, were examined in this manner.

Two hundred and eighty-nine gave a correct answer to No. 1; two hundred and eighty-two to No. 2; one hundred and seventy to No. 3; nine to No. 4; none to No. 5, though one hundred and twenty-six gave the same answer, viz: six months, which is nearly correct; two to No. 6, both of whom belonged to the Mather School; one hundred and forty-seven to No. 7; none to No. 8; one hundred and seventy-four to No. 9; and one,—Miss Frances A. Lathrop, of the Hawes school,—to No. 10. A considerable number gave different answers to No. 4, but only nine gave the correct one, two of whom belonged to the Adams school, one to the Johnson, and six to the Winthrop. The result in each school may be seen in the following table:

Schools.	No. belonging to schools.	No. in first class.	No. of pupils examined.	The result of the examination. The figures 1, 2, 3, &c. indicating the No. of the question, below which is stated the number of correct answers.										Average age of the pupils in each school.
				1	2	3	4	5	6	7	8	9	10	
Eliot,	470	80	24	24	24	13	0	0	0	5	0	13	0	13 6-12
Adams,	420	72	17	17	17	9	2	0	0	10	0	4	0	13 2-12
Franklin,	411	40	12	11	12	6	0	0	0	11	0	7	0	14 10-12
Mayhew,	373	54	17	17	15	4	0	0	0	4	0	4	0	13 10-12
Hawes,	424	52	20	20	20	5	0	0	0	5	0	11	1	14 4-12
Boylston,	547	101	26	26	26	26	0	0	0	19	0	16	0	15 1-12
Bowdoin,	511	143	19	19	19	18	0	0	0	11	0	11	0	15 4-12
Hancock,	549	100	23	21	21	1	0	0	0	6	0	22	0	14 7-12
Wells,	445	77	20	20	20	19	0	0	0	13	0	20	0	15
Johnson,	504	113	16	15	13	9	1	0	0	5	0	5	0	15
Winthrop,	553	81	20	20	19	13	6	0	0	16	0	14	0	13 10-12
Lyman,	380	41	10	10	10	10	0	0	0	7	0	9	0	14
Endicott,	518	81	22	22	17	11	0	0	0	13	0	11	0	13 6-12
Mather,	485	59	11	11	11	4	0	0	2	11	0	10	0	15
Brimmer,	532	40	15	11	10	5	0	0	0	1	0	5	0	14 6-12
Phillips,	450	59	13	11	12	8	0	0	0	3	0	6	0	13 2-12
Otis,	472	37	19	10	12	6	0	0	0	7	0	6	0	14
Smith,	163													
New South,	136		4	4	4	3	0	0	0	0	0	0	0	13 3-12

From the above table it will appear that the most successful schools were the Wells, Lyman, Winthrop, Mather and Bowdoin.

The average number of sums correctly solved by each pupil in the Wells and Lyman is four and six-tenths; in the Winthrop four and four-tenths; in the Mather, four and five-elevenths; and in the Bowdoin, four and two-nineteenths.

The Committee do not wish to be understood to say that the result of this written examination is a perfectly correct index of the standing of the several schools. It is only one mode of ascertaining that fact. It is certain and conclusive so far as it goes, and, if the character of a school depended upon the actual capacity of its pupils to solve questions of this nature, it would be a certain test. The Committee prefer, however, to judge of the value of instruction in the school, in part from other evidence. There are so many causes in operation which give some of our schools an advantage over the others, without any merit or demerit of the teacher, that it would be unjust to hold the masters of all the schools alike responsible for actual results. They should be responsible for only what they have and what they do or neglect. The master of a school lately organized or composed of new pupils, who exhibits a zeal and capacity in his vocation, who inspires in his pupils a love of learning and makes the schoolroom the place to which they like to resort, even though he cannot exhibit in them any great progress, deserves as much credit as the master of the best school in the City, and is in a fair way to bring his school into the first rank. This remark will apply to several of the schools, which have been organized within a few years. They have not at present so high a standing as some of the older schools, yet it is believed that equal credit is due to their teachers, and that instruction equally valuable and fitting is given to their pupils. In some cases, the new schools seem to have gone beyond the older ones. The Committee have ranked the Mather above the Hawes, and the Brimmer above the Johnson. They were much gratified with the instruction in the Winthrop, Phillips, Lyman and Endicott, all of which gave ample evidence of the zeal, fidelity and capacity of their teachers.

Of the girls' schools, the Bowdoin undoubtedly takes the first rank. Its pupils have made greater progress than in any other, and a greater number of them attend to the higher branches of Algebra and Geometry. The average age is believed to be greater than in any other school in the City. One hundred and forty-three compose the first class, more than half of whom study algebra and many of them have become well acquainted with its principles. Due credit is to be given to the teachers, yet it is believed that injustice would be done to other schools, if its superiority was not attributed in some degree, to other causes than their capacity and fidelity. Next to this school stand the Wells and Franklin, and then follow the Hancock and Johnson.

Of the boys' schools, the Committee give the Brimmer the first rank. Next to this, they place the Phillips and Eliot. After these comes the Adams, and then the Mayhew.

Of the mixed schools, the Boylston is at the head.

Of the comparative rank of the several schools, the Committee have said all they think necessary. Improvements may be made in them all, and in a City which has always been distinguished for its generous efforts in the cause of popular education, it is not becoming to lag behind, and follow at a distance and with reluctant step, the modern movement in this great cause. The preëminence of Boston in a matter so philanthropic, so just, and withal so economical as the education of the whole people, must be preserved. To promote this object, there is no lack of appropriations. The City give all that can be reasonably asked, and more than any other City in the world in proportion to its means. More than two hundred thousand dollars were paid last year for the support of schools and the building of school houses, of which about one hundred and twenty thousand were paid in salaries to instructers. During the present year appropriations have been made for similar purposes to the amount of $212,600. Of this, $127,000 are appropriated to the payment of salaries. Add to this the interest on the amount expended in school houses and owned by the City, and the whole expense paid by the City for schools and school houses the present year will exceed $250,000, being an amount equal to one third of the whole City tax. With such generous appropriations for popular education what cannot be effected? Let this amount be economically expended in schools properly organized, with able, efficient and zealous teachers, rejoicing in the duties and labors of their honorable and responsible profession, and inspired with a love of promoting the moral and intellectual progress of their race, and such an advance would be made in popular education in our

City, as not only to bring joy to the heart of the christian and philanthropist, but to make even the money calculator proud of the preëminence, the intellect, and moral power of our people.

It has been said by one of our own distinguished citizens, that the influence of New England in our widely extended country must hereafter depend, not on its numbers, but on carrying forward and extending our system of popular education, in developing the intellect and promoting the moral character of the whole people. Of the truth of this there can be no doubt, and equally true is it that the past influence of New England has depended on the same cause; that to this are due her early triumphs in sustaining and extending her settlements, her successful vindication of her rights, and above all, her preservation of a truly republican government.

The Committee do not intend to say any thing in derogation of the present masters of our schools, but, on the other hand, to the meritorious efforts and success of many of them, they cheerfully bear testimony. There are some cases where they think there is a want of the proper spirit, as well as the proper faculty to teach. Such, however, are exceptions, and are not very numerous.

Much of the improvement in the schools necessarily depends on the teachers. Elegant school houses and princely appropriations do but little without the teacher, who has a sufficient capacity and a proper spirit. If we employ a teacher whose efforts are to be limited to the use of means necessary to retain his place and get his salary, not much can be expected from him beyond that. He may get his salary, but he does not earn it. Nay, he does greater injustice than that. He deprives those committed to his charge of the benefit of that instruction, which, by accepting the office, he pledged himself to give. He commits a double wrong,—in the first place to the public, and in the second place by doing an irreparable injury to his pupils. Upon the teachers must, in a great degree, depend whether the pupils shall confine their acquisitions to the letter and rules of the text book, or whether they shall understand the principles of the studies they pursue.

In this respect there is a most striking difference in our schools. In some the pupils seem to understand what they have studied, and to know how to apply it to the cases which may arise; in others they can repeat rules with great fluency and accuracy, answer printed questions in arithmetic, while the book is before them, and, in fact, recite all their set lessons in the book in a manner which would seem to do them great credit. When, however, these landmarks are thrown aside, and they are called to the black board and requested to answer questions not found in the book, and for which they have no prescribed rules, they come to a dead stand, and lose the whole skill which before they apparently exhibited.

It seems to the Committee that this latter mode of instruction is quite too prevalent in some of the schools; that the pupils learn rules rather than principles, and that the text books are made quite too much their guide. It is believed that no school can be very successful while this plan is adhered to, that a good and sufficient education will not be acquired by keeping within the pages of text books, and that no person can be a successful teacher without constant instruction in the principles and application of the studies pursued.

The Committee are satisfied that improvements should be made in several of the school houses. All should have proper recitation rooms, and there would be much less interruption if the large school rooms were divided into two or three apartments by movable partitions. There should also be a much greater supply of black-boards. In many of the schools there is but one, and that a small one. If they were more generally provided, the teachers would use them more, and this would be attended with the most beneficial results. The City should provide all the necessary instruments for the teacher, so that on this head he shall have no excuse.

There is another topic for the improvement of the schools which the Committee beg leave to refer to the consideration of this Board. Each of the schools is divided into two departments, or in other words into two schools. Unless there is an advantage in this system of greater weight than its manifest disadvantages, it ought to be abolished. It is an anomaly in the school system of this Commonwealth, and exists hardly beyond sixteen of the Grammar and Writing Schools in Boston. It is exceedingly expensive, and more so than it need be. This is worthy of consideration, and should not be allowed unless its advantages are manifest. The Committee are not aware what are the arguments of the advocates of the present system. They can see no substantial good arising from it, while on the other hand, it is attended with great inconvenience and evil. Every pupil who attends these schools attends two schools, at the same time. He has two masters, under whose influence he is acquiring an education. One he visits in the forenoon, and the other in the afternoon. If he neglects one, the other knows nothing about it. One may instruct him in rules, the other in principles. One may adopt one course of conduct towards him, and the other a different course. One may deal in corporal punishment, and the other govern by the use of other means. The pupil always makes a comparison between them, and is very likely to entertain towards them different feelings.

But the great difficulty in the system is a proper distribution of studies between the two departments. By the present rules nothing but Writing and Arithmetic is required in the writing department. Some may avail themselves of the study of Algebra, Geometry and Book-keeping, but they are few, and are confined to the most advanced pupils. One half of the time is given by all the rest to Writing and Arithmetic, and this without any regard to sex, age or acquirements.

The girl at seven and sixteen gives the same time to these studies. From one half to an hour in each day is devoted to Writing, so that two hours or two hours and a half are set apart for Arithmetic during the seven or nine years that the pupils may remain in school. The rules give the masters no discretion in this matter, and the child who studies nothing but oral Arithmetic, and who, in fact, can learn nothing except during the recitation, is compelled to spend two or two and a half hours in this way. The Committee do not doubt that the older pupils may spend this time in the study of Arithmetic profitably, but they believe that with the younger it is not only partially lost, but tends to weary and disgust them.

By a late vote of this Board, Geography and Natural Philosophy are hereafter to be added to the studies of the Writing Department Of the expediency of this, there is a difference of opinion among the masters, and it may well be doubted whether it will not give that department more than its proportion of studies. It will be exceedingly advantageous to the younger pupils in that department, and will give them employment in an agreeable study, during the time that is now partially lost, and so far as they are concerned, it is desirable. Whether it will be so to the older pupils, remains to be seen.

In the schools exclusively for girls or boys, a division is made into classes, according to their attainments in one or the other department, and if the principle be rightly carried out, there must be frequent changes from one class to the other. The higher classes belong to one department, and the lower classes to the other, and all influence of the one on the other, whether for good or evil, is wholly lost. In the mixed schools a different rule prevails. In them the boys constitute one department, and the girls the other,—so that there is a first class of boys as well as of girls in each, and the master in each department is compelled to repeat his course of instruction every day. Many of the evils would be avoided by abolishing this system, and establishing in its stead a system which has for each school but one head master, who should be responsible for the instruction, management and discipline of the whole school. Let the school then be divided so as to give him all the older children, whom he should instruct in all the branches taught in the Schools, and to each of whom he should give such attention as should be thought for their good.

Such assistants might be employed to take charge of the younger classes as the condition of each school required. In the girls' schools, and perhaps in all, the services of several male teachers might be dispensed with, and in their stead females could be employed as assistants, who, it is believed, would be equally, if not more efficient and successful teachers of the young.

Your Committee cannot refrain from saying a few words on the subject of medals, as prizes for scholarship, &c. Much has been written for and against the principle of emulation as an incentive to diligence and intellectual developement, and it would seem from the fact that prizes are multiplying in our schools, through the munificence of individuals, that competition is the acknowledged principle of our school system, that it constitutes its life as it does of business. Your Committee cannot but express their regret if the fact is as it appears. They could wish the whole plan abolished, as presenting low and unworthy motives, where the noblest only should govern, and where the noblest, if presented, would be found the most powerful; and as introducing rivalries, jealousies and heart burnings, not only into the schools, but into families and social circles. It would need only that one should attend an examination for the awarding of medals to be convinced of the essential evils of the system.

To witness the anxiety, the feverish excitement of mind and body, preventing frequently the most meritorious scholars from doing justice to themselves, the crushing sense of a false shame at a mistake or temporary absence of memory; the starting tear of a modest, worthy and diligent girl at the forced consciousness of her inferiority in the eager race, would lead all of any sensibility, as it has your Committee, to deprecate the system, and to pray it may be no further extended by private or public bounty, but curtailed in every possible manner, if it may not be utterly abolished.

The schools suffer severely from the inconstant attendance of the pupils. The absence each day is about one fifth of the whole school. Parents and guardians should consider this subject, and endeavor to secure if possible, a more regular and constant attendance. The good order and management of the school, as well as the progress of the pupils, must be very seriously affected by so great an amount of absence. The Committee know no remedy for this evil, except by an appeal to the parents, and by making the school a more agreeable place for children.

The Committee have referred to most of the topics which seem to require consideration. They submit their recommendations and opinion with diffidence, and with no other view than to promote the good and growth of our system of public instruction. They believe it is capable of great improvement, and though they may differ with others in the means which shall be adopted, yet they will yield to none in their ardent wishes for the attainment of so desirable an end. They have acquired a new interest in our public schools, by the somewhat laborious examinations which they have been required to make, and they hope and trust that the system of popular education, first established in our Commonwealth, and steadily sustained even in the most trying periods of her history, will be improved until every child in the country is educated, and made capable of using for the best purposes, the powers which God has given him.

WILLIAM BRIGHAM,
J. I. T. COOLIDGE,
HIRAM A. GRAVES.

City Document.—No. 26.

PART II.

REPORT OF THE COMMITTEE

APPOINTED TO MAKE THE

ANNUAL EXAMINATION

OF THE

WRITING SCHOOLS.

CITY OF BOSTON.

In School Committee, May 6, 1845.

Ordered, That Messrs. Brigham, Coolidge and Graves, be a Committee to make the annual examination of the several Writing Schools, and report at the quarterly meeting in August.

Attest, S. F. McCLEARY, *Secretary.*

The Committee, who were directed to make the annual examination of the several Writing Schools, respectfully

REPORT:

That they have given the subject committed to their charge the attention which its importance seemed to demand.

They have visited all the schools, now numbering nineteen, and have endeavored, from personal examination to learn their present condition,and to ascertain how far this branch of our system of instruction answers the just expectations of the public.

By the present organization of the schools, five are exclusively for girls, five for boys, and nine for girls and boys. The girls are allowed to attend from seven years of age till the next annual exhibition after they shall have arrived to the age of sixteen. The boys leave two years earlier. Sixteen of the schools are divided into two departments, called the Grammar and Writing departments, between which the pupil's time is equally divided. Practically these divisions constitute separate schools, for each has its distinct teachers, and each is perfectly independent of the other. The only claim which the two departments have to any connection, is in the fact that the same pupils are half of the time in each, and are half of the time absent from each, and that both departments are called by the same name. In the Lyman, New South, and Smith schools, this division has not been made.

These schools possess various degrees of merit. Some are of a high order, and do credit both to the teachers and the taught. Others are of a different class, and, in the opinion of the Committee, do not possess the character and standing which the citizens have a right to expect from all their schools, so liberally sustained, and so important to the well-being of society. This difference arises in some cases from local circumstances beyond the control of the teachers, and in others, from the zeal, capacity or efforts of the teachers themselves. Some of the schools,—such as the Otis and New South,—have been lately organized, and have not as yet any distinctive character given them by their present teachers. They are composed chiefly of pupils taken from other schools, and from them we learn the present state of public instruction in the city, rather than the progress which they have made under their present instructers. The zeal and capacity which the masters in both of those schools exhibit, will, it is believed, in a proper time, give them a high character, and gain for them a large share of public favor. The committee were required to examine the first class only, and in most cases they limited their inquiries to this class. This generally constitutes about one fifth part of the school, and is composed of children between the ages of eleven and sixteen. It is believed that the average age of the first class in all the schools is about twelve or thirteen years. The first division of this class, which generally comprises from one-fifth to a quarter of the whole, average about fourteen years. The studies pursued are, Arithmetic, Algebra, Geometry, Writing and Book-keeping. The rules of the Board also require instruction to be given in pen making. Since, however, the introduction of steel pens in all the schools, this has become less necessary, and with the exception of two or three, no instruction whatever is given in this once necessary department of a writing school. It is believed, however, that until the use of steel pens shall have become universal, it would be expedient and desirable for each writing master to give instruction in pen making to those of his first class, who may require it. Algebra and Geometry are not made necessary studies by the rules, but are permitted in such cases as are thought expedient. For this reason Algebra is studied in only about two-thirds of them, and Geometry in only two, viz: the Hancock and Bowdoin.

From thirty minutes to one hour each day is devoted to writing by all the pupils of each class. In most of the schools one hour is spent in this way. Printed or engraved copies are generally used, though in many cases, for the younger children, they are written by the teacher. Writing books and pens are furnished by the teacher, and paid for by the pupils at a fixed price. This is believed to be general. The writing books are furnished the pupils at a price varying from six to twelve cents each, and the pens are provided for two or three cents per month.

The city supplies all the schools with ink. In several of the schools "Root's" system of writing has been introduced, and, so far as the Committee could learn, has been attended with good success. The best experiment in this system was seen at the Brimmer school, which, in this branch of instruction, the Committee place at the head of the schools.

In forming an estimate of the relative rank of the several schools in writing, the Committee confined themselves wholly to the specimens offered by the first class. The highest mark given by them was 12, and the rank assigned to each in this branch, is as follows:

Eliot,		10
Endicott,	Girls,	12
	Boys,	7
Hancock,		10
Mayhew,		6
Otis,		6
Wells,		9
Bowdoin,		11
Smith,		4
Phillips,		9
Adams,		6
Boylston,	Girls,	12
	Boys,	9
Franklin,		9
New South,		5
Brimmer,		12
Johnson,		9
Hawes,		8
Mather,		10
Winthrop,		9
Lyman,		10

So far as relates to the writing in the schools, the Committee have no suggestions to make.

It is not desirable to have entire uniformity in the mode of instruction in all of them. It is believed to be better to leave each teacher to adopt such improvements, from time to time, as he shall judge expedient. Much must be left to his own judgment, and his instruction must be varied according to the capacity and acquirements of the learner. The present mode of furnishing pens and writing books seems as free from objections as any which could be adopted. It is necessary to have uniformity in the books of each school, and it is also necessary to have those of a proper quality. Neither of these objects could be obtained, if each pupil purchased his book wherever he pleased. The masters purchase them much cheaper by the quantity, and selling them as they undoubtedly do to their pupils at cost, they are obtained at a much less price than single copies could be purchased at the stores. It is necessary to continue this system, or else have all the books purchased of some individual at a fixed price, under a contract made by the city. The latter plan would take some labor from the masters, but its advantages would hardly compensate for the increased trouble which it would give the pupils.

The Committee commenced their examination early in June, and continued the same, from time to time, to the middle of July. In Arithmetic, they examined the pupils by submitting printed questions for their solution, and also by propounding questions orally. Before, however, they state the result of that examination, they propose to give, in detail, certain facts and statistics relative to each school. They begin with the

ELIOT SCHOOL.

This school is located in North Bennet street—was established in 1713—has connected with it 470 boys. Its present master has been in the school 20 years. During the last six months, 215 pupils have been admitted, and 177 discharged, owing chiefly to a change in the limits of the districts. Eighty pupils belong to the first class. Twenty-seven study Book-keeping, but none study Algebra or Geometry. The first class have been "through the first thirty-seven articles in Emerson's Third Part." The school house has no recitation rooms. The pupils are younger than in several of the other schools, and appear to have made greater progress in writing than in arithmetic. In Book-keeping their acquisitions seem to have been very limited.

ADAMS SCHOOL

Was established in 1717, and is located in Mason street. It has connected with it 420 boys. The building in which the school is kept is badly situated, has no recitation rooms, and is wholly unfit for the school. Seventy-two constitute the first class, a part of whom have gone through the Third Part of the Arithmetic. None study algebra. The present teacher took charge of the school in December, 1833. Several changes have been made in it during the last six months. Sixty-three of the first class have been discharged and seventeen admitted.

FRANKLIN SCHOOL

Is located in Washington street, and was established in 1785. It is a school for girls, and has 411 belonging to it. The first class consists of 40. Eleven have been through Bailey's Algebra, and nine study Book-keeping. The first class have been through the Third Part of the Arithmetic. The present master has been connected with the school seven years. This school has been somewhat broken up the last year by reason of the School House having been burned.

MAYHEW SCHOOL

Is located in Hawkins street, and was established in 1803. It is a school for boys—has 373 pupils. The school house is inconvenient, and has no recitation rooms. There are fifty-four in the first class. Eighteen study Algebra; none Book-keeping. The first class have been through forty chapters of the Third Part of the Arithmetic. The present master has been connected with the school since December, 1833. Since September last, 120 have been discharged from the first class and sixty admitted.

HAWES SCHOOL

Was established in South Boston in 1811, and has 424 boys and girls connected with it. Twenty-four study Book-keeping, and none Algebra. The first division of the first class have been in Arithmetic nearly through the Third Part. The present teacher has been in the school ten years.

BOYLSTON SCHOOL

Was established in 1819, and is located on Fort Hill. It is open for both boys and girls, and 547 now belong to it. Nineteen study Algebra, and twenty-two Book-keeping. There are 101 in the first class, the first division of which have gone, in the Third Part of the Arithmetic, to the one hundred and eighty-first page. The present master has been connected with the school four and a half years. The School House needs recitation rooms.

BOWDOIN SCHOOL

Is a school for girls: was established in 1821, and is located in Derne street. At present, 511 belong to it, and there are 143 in the first class. Seventy-five study Algebra, twenty-five Geometry, and sixty Book-keeping. The present master has been connected with this school twenty years, and has been a teacher in the Public Schools of the City thirty-five years. About 150 pupils have been discharged from this school within a few months, to go to other schools.

HANCOCK SCHOOL

Was established in 1822, and is located in Hanover street. Five hundred and forty-nine girls belong to it, one hundred of whom are in the first class. Thirty-eight study Algebra, thirty-eight Geometry, and fifty-one Book-keeping. The present master has been in the School twenty-one years. The school House is inconvenient, and has no recitation rooms. Within a few months, and at the time of the organization of the Otis School, about one fifth part of this school was changed.

WELLS SCHOOL

Is situated in McLean street, and was established in 1833:

was changed, last spring, from a boys' and girls' School, to one exclusively for girls. Four hundred and forty-five now belong to it, and seventy-seven are in the first class. Thirty-five study Algebra and Book-keeping. The first division have been through the Third Part of the Arithmetic. The present master has been in the school seven years.

JOHNSON SCHOOL

Was established in 1833, and is situated in Tremont street. It is exclusively for girls, and has connected with it 504. Twenty-seven study Algebra, and thirty Book-keeping. There are one hundred and thirteen in the first class. The present teacher has been connected with the school about four years.

WINTHROP SCHOOL

Was established in 1836, and is situated in East street. Five hundred and fifty-three boys and girls belong to it. Eighty-one constitute the first class. Twenty study Algebra and Book-keeping. The present master has been connected with the school since 1841.

LYMAN SCHOOL

Is situated in East Boston, and was organized in 1837. Three hundred and sixty boys and girls belong to it. Forty-one belong to the first class. Twenty-eight study Algebra. This school is under the charge of one master, an usher and three female teachers. A division of the school into distinct departments has not been adopted. The present master has been connected with the school eight years. Many changes have taken place in it, and during the past year about three hundred have joined, and two hundred have left it.

ENDICOTT SCHOOL

Is situated in Cooper street, and was established in 1840. The present master has been connected with the school five years. It is for both boys and girls. Five hundred and eighteen belong to it. Eighty-one belong to the first class. Twelve study Algebra. The school has suffered a good deal the past year by a change of pupils.

MATHER SCHOOL

Was established at South Boston in 1843. Four hundred and eighty-five boys and girls belong to to it, of whom fifty-nine are in the first class. Eleven study Algebra, and eight Book-keeping. The present master has been connected with the school since its organization.

BRIMMER SCHOOL

Was organized last year, and is located in Common street. It is a school exclusively for boys, and the number now belonging to it is 532. Nineteen study Algebra and Bookkeeping. The present teacher has been connected with the school since its organization. The master instructs some of the pupils in Drawing, out of school hours. Forty constitute the first class.

PHILLIPS SCHOOL

Is situated in Pinckney street, and has 454 pupils. It was established last year. The first class in arithmetic have gone nearly through the third part. The present master took charge of the school in November last. It has been a good deal changed since that time by reason of making the Wells school a girls' school.

OTIS SCHOOL

Is situated in Lancaster street, and was first opened the present year. Four hundred and seventeen boys and girls belong to it. None at present study Algebra. The master instructs several of the older pupils in Drawing, after the usual school hours. There are thirty-seven in the first class.

NEW SOUTH SCHOOL

Is a school for boys, and is at present kept in the vestry of the Suffolk Street Chapel. One hundred and thirty-six belong to it. It has been established but a short time, and is under the control of a master and two female assistants. A new school house is now in process of building in Concord street for this school.

SMITH SCHOOL

Was instituted in 1812, and is designed for the instruction of colored children of both sexes. At the time of the examination, 163 belonged to it. The average attendance since the first of April last has been 109. This school is under the instruction of a master and two female assistants. It is divided into four classes. Twenty-seven are in the first class. Four half days each week are devoted to writing and arithmetic. Of the first division of the first class only five were present, whose average age was twelve years and four months. There seemed to be but few pupils present more than ten or eleven years of age. The present master has been connected with the school eleven years.

The Committee do not hesitate to say that they were disappointed in this school. With but two or three exceptions the pupils had not gone beyond the simplest questions in oral Arithmetic, and on examination they seemed to be unable to answer any thing but the plainest propositions. The school is in a low condition, and does not appear to be answering the objects for which it was instituted. There are, no doubt, great difficulties in the management and instruction of this school, arising from causes which do not affect any other school in the city. The children leave early and as soon as they are able to obtain employment. Those best educated and most capable usually go first.

They often, too, join the school at an advanced age, and without much previous education or discipline. They are inconstant in their attendance, oftentimes tardy, and in many cases exceedingly inattentive to their studies. It is evident that in a school of this character, other and greater efforts are required in its management than in the other city schools. It may not be made to compete with the other schools, yet it is believed that it can be much elevated, that its usefulness may be increased, and that it may be placed on such a footing as to answer the just expectations of its benevolent founder, as well as the rightful claims of the colored population.

The Committee do not deem it their duty to go into a discussion of the causes of the present state of things in this school. Evils do exist which must and ought to find a remedy. The school is not what it ought to be, nor is it what it is believed it can be. The particular measures which shall be adopted for its elevation and improvement, the Committee are not prepared to point out, but will leave them to be devised and adopted by a community always generous in its means to educate and improve its members.

The written examination in Arithmetic was adopted in all the schools except the Smith. It was limited to the first division of the first class, which varied in numbers from four to twenty-six. The Committee prepared ten questions for solution, on a variety of subjects, and caused them to be printed on a single sheet, leaving between each a sufficient blank space to enable the pupils to record the process of solution. The same questions were submitted to all the schools, and the pupils were required to lay aside their books and slates, and work out the process on the paper itself. One hour and ten minutes were allowed them, at the expiration of which all the papers were returned to the Committee, whether the questions were solved or not. It was not expected that any considerable number could work out all the sums in so short a time, but it was thought expedient to propose such questions that even those who had made the greatest advancement might find employment during the allotted period. It was also intended to have these questions embrace such a variety of subjects as to require a pretty thorough knowledge of the whole science of arithmetic to give the right answers to them all.

The questions submitted are as follows:

1—How much is $\frac{1}{2}$ of $\frac{1}{3}$ of 9 hours and 18 minutes?

2—What part of 100 acres is 63 acres, 2 roods, and 7 rods?

3—What is the quotient of one ten thousandth, divided by ten thousand? Express the answer in decimal and vulgar fractions.

4—A stationer sold quills at 10*s* 6*d* per thousand, by which he cleared $\frac{1}{3}$ of the price—but the quills growing scarce, he raised the price to 12*s* per thousand. What per cent. would he clear by the latter price?

5—Suppose A owes me $100 due at the end of 3 months, and $100 due at the end of 9 months, and he agrees to give me a note for $200 payable at such a time that its present worth shall be the same as the sum of the present value of the two first mentioned notes. How long after date must this note be made payable?

6—A man has a square piece of ground which contains one quarter of one acre and a quarter, on which are trees, which will make wood enough to form a pile around on the inside of the bounds of the land 3 feet high and 4 feet wide. How many cords of wood are there?

7—A sold goods for $1,500, to be paid for one half in 6 months, and one half in 9 months. What is the present worth of the goods, interest being at 7 per cent.

8—A merchant in New York where interest is 7 per cent. gives his note, dated at Boston, where the interest is 6 per cent. for $5,000, payable at the Merchants' Bank, Boston, on demand. Thirty days after the date of the note demand is made. A year after demand $200 are paid on the note. What sum remains due at the end of two years from the date of the note?

9—What is the square root of $\frac{5}{9}$ of $\frac{4}{5}$ of $\frac{4}{7}$ of $\frac{7}{9}$?

10—The City of Boston has 120,000 inhabitants, half males, and its property liable to taxation is one hundred millions. It levies a poll tax of $\frac{2}{3}$ of a dollar each on one half of its male population. It taxes income to the amount of $50,000, and its whole tax is $770,000. What should a man pay whose taxable property amounts to $100,000?

The whole number of children belonging to the schools at the time of the examination was 8,343, of whom 308, comprising the best scholars in each school, were examined in this manner.

Two hundred and eighty-nine gave a correct answer to No. 1; two hundred and eighty-two to No. 2; one hundred and seventy to No. 3; nine to No. 4; none to No. 5, though one hundred and twenty-six gave the same answer, viz: six months, which is nearly correct; two to No. 6, both of whom belonged to the Mather School; one hundred and forty-seven to No. 7; none to No. 8; one hundred and seventy-four to No. 9; and one,—Miss Frances A. Lathrop, of the Hawes school,—to No. 10. A considerable number gave different answers to No. 4, but only nine gave the correct one, two of whom belonged to the Adams school, one to the Johnson, and six to the Winthrop. The result in each school may be seen in the following table:

Schools.	No. belonging to schools.	No. in first class.	No. of pupils examined.	The result of the examination. The figures 1, 2, 3, &c. indicating the No. of the question, below which is stated the number of correct answers.										Average age of the pupils in each school.
				1	2	3	4	5	6	7	8	9	10	
Eliot,	470	80	24	24	24	13	0	0	0	5	0	13	0	13 6-12
Adams,	420	72	17	17	17	9	2	0	0	10	0	4	0	13 2-12
Franklin,	411	40	12	11	12	6	0	0	0	11	0	7	0	14 10-12
Mayhew,	373	54	17	17	15	4	0	0	0	4	0	4	0	13 10-12
Hawes,	424	52	20	20	20	5	0	0	0	5	0	11	1	14 4-12
Boylston,	547	101	26	26	26	26	0	0	0	19	0	16	0	15 1-12
Bowdoin,	511	143	19	19	19	18	0	0	0	11	0	11	0	15 4-12
Hancock,	549	100	23	21	21	1	0	0	0	6	0	22	0	14 7-12
Wells,	445	77	20	20	20	19	0	0	0	13	0	20	0	15
Johnson,	504	113	16	15	13	9	1	0	0	5	0	5	0	15
Winthrop,	553	81	20	20	19	13	6	0	0	16	0	14	0	13 10-12
Lyman,	380	41	10	10	10	10	0	0	0	7	0	9	0	14
Endicott,	518	81	22	22	17	11	0	0	0	13	0	11	0	13 6-12
Mather,	485	59	11	11	11	4	0	0	2	11	0	10	0	15
Brimmer,	532	40	15	11	10	5	0	0	0	1	0	5	0	14 6-12
Phillips,	450	59	13	11	12	8	0	0	0	3	0	6	0	13 2-12
Otis,	472	37	19	10	12	6	0	0	0	7	0	6	0	14
Smith,	163													
New South,	136		4	4	4	3	0	0	0	0	0	0	0	13 3-12

From the above table it will appear that the most successful schools were the Wells, Lyman, Winthrop, Mather and Bowdoin.

The average number of sums correctly solved by each pupil in the Wells and Lyman is four and six-tenths; in the Winthrop four and four-tenths; in the Mather, four and five-elevenths; and in the Bowdoin, four and two-nineteenths.

The Committee do not wish to be understood to say that the result of this written examination is a perfectly correct index of the standing of the several schools. It is only one mode of ascertaining that fact. It is certain and conclusive so far as it goes, and, if the character of a school depended upon the actual capacity of its pupils to solve questions of this nature, it would be a certain test. The Committee prefer, however, to judge of the value of instruction in the school, in part from other evidence. There are so many causes in operation which give some of our schools an advantage over the others, without any merit or demerit of the teacher, that it would be unjust to hold the masters of all the schools alike responsible for actual results. They should be responsible for only what they have and what they do or neglect. The master of a school lately organized or composed of new pupils, who exhibits a zeal and capacity in his vocation, who inspires in his pupils a love of learning and makes the schoolroom the place to which they like to resort, even though he cannot exhibit in them any great progress, deserves as much credit as the master of the best school in the City, and is in a fair way to bring his school into the first rank. This remark will apply to several of the schools, which have been organized within a few years. They have not at present so high a standing as some of the older schools, yet it is believed that equal credit is due to their teachers, and that instruction equally valuable and fitting is given to their pupils. In some cases, the new schools seem to have gone beyond the older ones. The Committee have ranked the Mather above the Hawes, and the Brimmer above the Johnson. They were much gratified with the instruction in the Winthrop, Phillips, Lyman and Endicott, all of which gave ample evidence of the zeal, fidelity and capacity of their teachers.

Of the girls' schools, the Bowdoin undoubtedly takes the first rank. Its pupils have made greater progress than in any other, and a greater number of them attend to the higher branches of Algebra and Geometry. The average age is believed to be greater than in any other school in the City. One hundred and forty-three compose the first class, more than half of whom study algebra and many of them have become well acquainted with its principles. Due credit is to be given to the teachers, yet it is believed that injustice would be done to other schools, if its superiority was not attributed in some degree, to other causes than their capacity and fidelity. Next to this school stand the Wells and Franklin, and then follow the Hancock and Johnson.

Of the boys' schools, the Committee give the Brimmer the first rank. Next to this, they place the Phillips and Eliot. After these comes the Adams, and then the Mayhew.

Of the mixed schools, the Boylston is at the head.

Of the comparative rank of the several schools, the Committee have said all they think necessary. Improvements may be made in them all, and in a City which has always been distinguished for its generous efforts in the cause of popular education, it is not becoming to lag behind, and follow at a distance and with reluctant step, the modern movement in this great cause. The preëminence of Boston in a matter so philanthropic, so just, and withal so economical as the education of the whole people, must be preserved. To promote this object, there is no lack of appropriations. The City give all that can be reasonably asked, and more than any other City in the world in proportion to its means. More than two hundred thousand dollars were paid last year for the support of schools and the building of school houses, of which about one hundred and twenty thousand were paid in salaries to instructers. During the present year appropriations have been made for similar purposes to the amount of $212,600. Of this, $127,000 are appropriated to the payment of salaries. Add to this the interest on the amount expended in school houses and owned by the City, and the whole expense paid by the City for schools and school houses the present year will exceed $250,000, being an amount equal to one third of the whole City tax. With such generous appropriations for popular education what cannot be effected? Let this amount be economically expended in schools properly organized, with able, efficient and zealous teachers, rejoicing in the duties and labors of their honorable and responsible profession, and inspired with a love of promoting the moral and intellectual progress of their race, and such an advance would be made in popular education in our

City, as not only to bring joy to the heart of the christian and philanthropist, but to make even the money calculator proud of the preëminence, the intellect, and moral power of our people.

It has been said by one of our own distinguished citizens, that the influence of New England in our widely extended country must hereafter depend, not on its numbers, but on carrying forward and extending our system of popular education, in developing the intellect and promoting the moral character of the whole people. Of the truth of this there can be no doubt, and equally true is it that the past influence of New England has depended on the same cause; that to this are due her early triumphs in sustaining and extending her settlements, her successful vindication of her rights, and above all, her preservation of a truly republican government.

The Committee do not intend to say any thing in derogation of the present masters of our schools, but, on the other hand, to the meritorious efforts and success of many of them, they cheerfully bear testimony. There are some cases where they think there is a want of the proper spirit, as well as the proper faculty to teach. Such, however, are exceptions, and are not very numerous.

Much of the improvement in the schools necessarily depends on the teachers. Elegant school houses and princely appropriations do but little without the teacher, who has a sufficient capacity and a proper spirit. If we employ a teacher whose efforts are to be limited to the use of means necessary to retain his place and get his salary, not much can be expected from him beyond that. He may get his salary, but he does not earn it. Nay, he does greater injustice than that. He deprives those committed to his charge of the benefit of that instruction, which, by accepting the office, he pledged himself to give. He commits a double wrong,—in the first place to the public, and in the second place by doing an irreparable injury to his pupils. Upon the teachers must, in a great degree, depend whether the pupils shall confine their acquisitions to the letter and rules of the text book, or whether they shall understand the principles of the studies they pursue.

In this respect there is a most striking difference in our schools. In some the pupils seem to understand what they have studied, and to know how to apply it to the cases which may arise; in others they can repeat rules with great fluency and accuracy, answer printed questions in arithmetic, while the book is before them, and, in fact, recite all their set lessons in the book in a manner which would seem to do them great credit. When, however, these landmarks are thrown aside, and they are called to the black board and requested to answer questions not found in the book, and for which they have no prescribed rules, they come to a dead stand, and lose the whole skill which before they apparently exhibited.

It seems to the Committee that this latter mode of instruction is quite too prevalent in some of the schools; that the pupils learn rules rather than principles, and that the text books are made quite too much their guide. It is believed that no school can be very successful while this plan is adhered to, that a good and sufficient education will not be acquired by keeping within the pages of text books, and that no person can be a successful teacher without constant instruction in the principles and application of the studies pursued.

The Committee are satisfied that improvements should be made in several of the school houses. All should have proper recitation rooms, and there would be much less interruption if the large school rooms were divided into two or three apartments by movable partitions. There should also be a much greater supply of black-boards. In many of the schools there is but one, and that a small one. If they were more generally provided, the teachers would use them more, and this would be attended with the most beneficial results. The City should provide all the necessary instruments for the teacher, so that on this head he shall have no excuse.

There is another topic for the improvement of the schools which the Committee beg leave to refer to the consideration of this Board. Each of the schools is divided into two departments, or in other words into two schools. Unless there is an advantage in this system of greater weight than its manifest disadvantages, it ought to be abolished. It is an anomaly in the school system of this Commonwealth, and exists hardly beyond sixteen of the Grammar and Writing Schools in Boston. It is exceedingly expensive, and more so than it need be. This is worthy of consideration, and should not be allowed unless its advantages are manifest. The Committee are not aware what are the arguments of the advocates of the present system. They can see no substantial good arising from it, while on the other hand, it is attended with great inconvenience and evil. Every pupil who attends these schools attends two schools, at the same time. He has two masters, under whose influence he is acquiring an education. One he visits in the forenoon, and the other in the afternoon. If he neglects one, the other knows nothing about it. One may instruct him in rules, the other in principles. One may adopt one course of conduct towards him, and the other a different course. One may deal in corporal punishment, and the other govern by the use of other means. The pupil always makes a comparison between them, and is very likely to entertain towards them different feelings.

But the great difficulty in the system is a proper distribution of studies between the two departments. By the present rules nothing but Writing and Arithmetic is required in the writing department. Some may avail themselves of the study of Algebra, Geometry and Book-keeping, but they are few, and are confined to the most advanced pupils. One half of the time is given by all the rest to Writing and Arithmetic, and this without any regard to sex, age or acquirements.

The girl at seven and sixteen gives the same time to these studies. From one half to an hour in each day is devoted to Writing, so that two hours or two hours and a half are set apart for Arithmetic during the seven or nine years that the pupils may remain in school. The rules give the masters no discretion in this matter, and the child who studies nothing but oral Arithmetic, and who, in fact, can learn nothing except during the recitation, is compelled to spend two or two and a half hours in this way. The Committee do not doubt that the older pupils may spend this time in the study of Arithmetic profitably, but they believe that with the younger it is not only partially lost, but tends to weary and disgust them.

By a late vote of this Board, Geography and Natural Philosophy are hereafter to be added to the studies of the Writing Department. Of the expediency of this, there is a difference of opinion among the masters, and it may well be doubted whether it will not give that department more than its proportion of studies. It will be exceedingly advantageous to the younger pupils in that department, and will give them employment in an agreeable study, during the time that is now partially lost, and so far as they are concerned, it is desirable. Whether it will be so to the older pupils, remains to be seen.

In the schools exclusively for girls or boys, a division is made into classes, according to their attainments in one or the other department, and if the principle be rightly carried out, there must be frequent changes from one class to the other. The higher classes belong to one department, and the lower classes to the other, and all influence of the one on the other, whether for good or evil, is wholly lost. In the mixed schools a different rule prevails. In them the boys constitute one department, and the girls the other,—so that there is a first class of boys as well as of girls in each, and the master in each department is compelled to repeat his course of instruction every day. Many of the evils would be avoided by abolishing this system, and establishing in its stead a system which has for each school but one head master, who should be responsible for the instruction, management and discipline of the whole school. Let the school then be divided so as to give him all the older children, whom he should instruct in all the branches taught in the Schools, and to each of whom he should give such attention as should be thought for their good.

Such assistants might be employed to take charge of the younger classes as the condition of each school required. In the girls' schools, and perhaps in all, the services of several male teachers might be dispensed with, and in their stead females could be employed as assistants, who, it is believed, would be equally, if not more efficient and successful teachers of the young.

Your Committee cannot refrain from saying a few words on the subject of medals, as prizes for scholarship, &c. Much has been written for and against the principle of emulation as an incentive to diligence and intellectual developement, and it would seem from the fact that prizes are multiplying in our schools, through the munificence of individuals, that competition is the acknowledged principle of our school system, that it constitutes its life as it does of business. Your Committee cannot but express their regret if the fact is as it appears. They could wish the whole plan abolished, as presenting low and unworthy motives, where the noblest only should govern, and where the noblest, if presented, would be found the most powerful; and as introducing rivalries, jealousies and heart burnings, not only into the schools, but into families and social circles. It would need only that one should attend an examination for the awarding of medals to be convinced of the essential evils of the system.

To witness the anxiety, the feverish excitement of mind and body, preventing frequently the most meritorious scholars from doing justice to themselves, the crushing sense of a false shame at a mistake or temporary absence of memory; the starting tear of a modest, worthy and diligent girl at the forced consciousness of her inferiority in the eager race, would lead all of any sensibility, as it has your Committee, to deprecate the system, and to pray it may be no further extended by private or public bounty, but curtailed in every possible manner, if it may not be utterly abolished.

The schools suffer severely from the inconstant attendance of the pupils. The absence each day is about one fifth of the whole school. Parents and guardians should consider this subject, and endeavor to secure if possible, a more regular and constant attendance. The good order and management of the school, as well as the progress of the pupils, must be very seriously affected by so great an amount of absence. The Committee know no remedy for this evil, except by an appeal to the parents, and by making the school a more agreeable place for children.

The Committee have referred to most of the topics which seem to require consideration. They submit their recommendations and opinion with diffidence, and with no other view than to promote the good and growth of our system of public instruction. They believe it is capable of great improvement, and though they may differ with others in the means which shall be adopted, yet they will yield to none in their ardent wishes for the attainment of so desirable an end. They have acquired a new interest in our public schools, by the somewhat laborious examinations which they have been required to make, and they hope and trust that the system of popular education, first established in our Commonwealth, and steadily sustained even in the most trying periods of her history, will be improved until every child in the country is educated, and made capable of using for the best purposes, the powers which God has given him.

WILLIAM BRIGHAM,
J. I. T. COOLIDGE,
HIRAM A. GRAVES.

City Document.—No. 27.

SICUT PATRIBUS SIT DEUS NOBIS
BOSTONIA CONDITA A.D. 1630.
CIVITATIS REGIMINE DONATA A.D. 1822.

PETITION

OF THE

STOCKHOLDERS OF SPOT POND AQUEDUCT COMPANY.

August 18, 1845.

Referred to Aldermen Ayer, Perkins and Shipley, and ordered that one hundred copies be printed.

Attest, S. F. McCleary, *City Clerk.*

TO THE MAYOR AND ALDERMEN OF THE CITY OF BOSTON.

WHEREAS two thirds of the Capital of the Spot Pond Aqueduct Company have been subscribed, and a portion of the subscribers by their circular of May last pledged themselves to apply to the Legislature for certain amendments of their Charter, specified below, and to offer to the City a portion of the Capital, the subscribers to the Stock respectfully request you to submit to the Citizens of Boston, in their respective wards, as soon as may be, the following proposition:—

"Shall the immediate introduction of pure water be secured by requesting the City Government to subscribe for the remaining third of the Capital of the Spot Pond Aqueduct Company, with liberty to take the whole on the completion of the work pursuant to the Charter."

And in case a majority of voters shall approve the same, they respectfully request the City Government, under the power conferred by the Charter, to subscribe for one third of the Stock of the Company, which has been reserved for the City.

At the next session of the Legislature, application will be made for the following amendments.

1. That the Mayor and Aldermen shall forever be, by virtue of their office, but without compensation, a Board of Water Comptrollers, whose duty it shall

be to supervise the income of the Corporation, and to regulate the water rents, from time to time, so that the Stockholders shall not receive a yearly profit of less than six per cent., if the net income of the works will yield so much—nor more than ten per cent.

2. That the said Board of Water Comptrollers shall determine, from time to time, how many, and when, and where, public hydrants shall be placed in the street, for the accommodation of the poor, for the use of which an annual rent shall be paid by the City to the Corporation.

3. Said Board shall also determine how many, and when, and where, ornamental public fountains, not exceeding three, shall be placed, and the annual rent for the use of both hydrants and fountains, (if the Water Comptrollers and the Corporation cannot agree upon a price,) shall be fixed by three Commissioners, to be mutually chosen by the parties, from time to time, as occasion may require.

4. Said Board may notify the agents of the Corporation, when and where, they desire to have fire plugs inserted into the main pipes—and said Corporation shall be compelled forthwith to make such insertions, at the expense of the City—but the use of the water for the suppression and extinguishment of fires, and to fill the City reservoirs, shall at all times be free, and without any expense to the City; and one or more servants of the Company shall at all times be at hand, to aid the Chief Engineer of the Fire Department.

And also a further amendment, providing that the City may elect a number of Directors proportionate to the Stock subscribed by them, by concurrent vote of the Mayor and Aldermen and Common Council, and vote on all other subjects at the meeting of the Company.

The introduction of Water by this Company has been once approved by the City Government.

The Charter of the Company has been framed to meet the suggestions and wishes of the City Government, and your petitioners have no doubt, that a prompt subscription on the part of the City will secure, by next year, an ample and sure supply of the purest water at a low scale of charges, and, combining the resources and credit of the City with individual frugality, enterprise and sagacity, will insure promptitude in action, and economy in expenditure, and rapid execution, and avoid all risk of increased taxation from a larger and more uncertain enterprise at the sole risk of the City.

By the concert of action proposed, the City would become at once proprietors of one third of the Stock, and have the option of taking the whole Stock upon the completion of the enterprise.

Respectfully asking the immediate action of the Mayor and Aldermen, your petitioners as in duty bound will ever pray.

The subscribers to the Stock of the Spot Pond Aqueduct Company, by

CALEB EDDY, *Chairman.*

S. Shaw, Jr., *Secretary.*

Boston, August 5th, 1845.

Boston, August 5th, 1845.

At a meeting of the subscribers to the Stock of the Spot Pond Aqueduct Corporation, the following vote was passed without a dissenting voice.

Voted, That the Petition to the City Government annexed to the Report of the Executive Committee, be adopted by the meeting, and that the same be signed, in behalf of the association, by the Chairman and Secretary, and be transmitted to the Mayor and Aldermen, by a Committee of one hundred subscribers to the Stock.

Attest, S. SHAW, JR., *Secretary.*

TO THE MAYOR AND ALDERMEN OF THE CITY OF BOSTON.

The undersigned, Committee of the subscribers to the Stock of the Spot Pond Aqueduct Company, respectfully present to your Honorable Board, the petition of their associates, accompanied by the contemplated amendments of the Charter of the Spot Pond Aqueduct Company, which are designed to protect the interests of the City.

Commending the same to your favorable consideration, they are respectfully,

Robert G. Shaw,
Thomas Wigglesworth,
Cyrus Alger,
Giles Lodge,
John Ballard,
Samuel T. Armstrong,
John D. Williams,
Richard Urann,
Aaron Bancroft,
William Dall,
Henry K. Hancock,
Henry Farnam,

Jonathan Chapman,
William Underwood,
Edward D. Peters,
George W. Crockett,
Z. B. Adams,
Prentiss Hobbs,
Richard Martin,
Jedediah Tuttle,
Edward Blake,
Edward A Raymond,
Benjamin Lamson,
John Eaton,
Jabez C. Howe,
Francis Welch,
Samuel F. Coolidge,
George C. Shattuck,
James C. Merrill,
Amos Binney,
Charles Amory,
H. B. Rogers,
Henry G. Andrews,
J. A. Lowell,
Abner Phelps,
Pliny Cutler,
Samuel May,
Moses French,
Ezra Lincoln,
Stephen Fairbanks,
Ellis Gray Loring,
B. T. Reed,
Bela Hunting,
John Templeton,
Jonathan Preston,
William Lawrence,
John P. Thorndike,
John Stevens,
Deming Jarves,
Henry Edwards,
Henry Hall,
Israel Ames,
Philo S. Shelton,
F. C. Loring,
Simon Wilkinson,
John G. Torrey,
C. F. Adams,
Joseph N. Howe, Jr.
Charles Wilkins,
Samuel Johnson,
William P. Winchester, by his attorney, S. Winchester,
Wyatt Richards,
Josiah Bradlee,
Jeffrey Richardson,
Joel Thayer,
Solomon Piper,
Isaac Parker, Ward 7,
Uriel Crocker,
Daniel Draper,
William H. Prentice,
Benjamin Humphrey,
Adin Hall,
P. P. F. Degrand,
James Cheever,
Ebenezer Smith,
Silas Pierce,
William W. Stone,
Samuel Gilbert,

Charles Stoddard,
Daniel Safford,
Frederick Gould,
William Wright,
Thaddeus Nichols,
Jabez Ellis,
John G. Roberts,
Nathaniel Faxon,
Francis O. Watts,
William F. Weld,
Henry D. Gray,
William J. Hubbard,
Royal B. Willis,
William H. Lane,
Nathaniel Hammond,
A. Perkins,
William E. Coffin,
Joseph Cotton,
Jonathan Goldsmith,
M. A. Metcalf,
H. Weld Fuller,
Henry B. Stone.

City Document.—No. 28.

CITY OF BOSTON.

RICHMOND STREET.

In the Board of Aldermen, Sept. 1, 1845.

Referred to the Committee on Finance, and ordered to be printed.

Attest, S. F. McCleary, *City Clerk.*

CITY OF BOSTON.

In the Board of Aldermen, Sept. 1, 1845.

The Committee on laying out and widening Streets, to whom was referred the Petitions of Robert G. Shaw and twelve others, and of John Snelling and three hundred others, that Richmond Street may be widened, having attended to the subject, ask leave to

REPORT:

That Richmond Street is situated at the northerly section of the City, and runs directly from Commercial Street and the wharves westerly, across Hanover to Salem Street.

That portion of the Street, laying between Commercial and Fulton Streets is 40 feet in width ; from Fulton to Ann Street in its greatest width, it is only 15 feet 11 inches, and aside from this inconvenient narrowness, the paving is in an exceedingly broken and dangerous condition.

That portion of the Street, extending from Ann to Hanover Street, is somewhat better in regard to paving ; but its width in the narrowest part is only 14 feet and 2 inches, and in the greatest width, 21 feet 11 inches, and that only at the junction of these two Streets, that portion of the Street from Hanover to Salem Street, varies in width from 15 feet 7 inches to 22 feet 5 inches.

This Board has, however, by its Resolve, passed May, 1845, laid out this Street prospectively, from Hanover to Fulton Street, 40 feet wide.

There are peculiar reasons for opening this Street during the present season. A new rail road terminus has lately been established near the Hay Scales; the buildings are being constructed on a liberal and very enlarged plan, with a reasonable prospect of a large share of merchandize transportation. This merchandize, as well as that which is transported over the Lowell road, comes in a great measure from the wharves and their neighborhood.

There is no route so direct and so easy of travel as this Street, provided it were made of a sufficient width and properly paved, and also extended some short distance, from Salem Street westerly, through Bartlett Place to North Margin Street, thence by a continuance of North Margin Street to Stillman Street, where there would be a broad level and very direct street from the wharves to the westerly section of the City.

This appears to the Committee to be one of those improvements that the increasing business of the neighborhood and the convenience of the public imperatively require; and if the present opportunity is suffered to pass unimproved, it must be at a far greater expense that the widening will be made at some future time, for there cannot be a doubt, it will be found absolutely necessary before long to make this contemplated improvement.

In relation to the cost of the projected widening, we have made inquiry sufficient to satisfy ourselves that the abuttors on the Street view the improvement with approbation, and consider though their estates will be curtailed in depth, that the portion which remains will be enhanced in value. They are, we believe, disposed generally to meet the City on very liberal terms, asking simply a fair remunerating price for their lands.

The gentleman who owns the land, or rather the greater portion of it, from Ann to Fulton Street has been conferred with, and an obligation given by him that he will dispose of between 4,000 and 5,000 feet of land for the purposes of a Street on what may be deemed exceedingly advantageous terms.

Another gentleman owns the whole of the land with a small exception, that would be required from Salem Street to North Margin Street This gentleman is now building upon his estate, but the assent of this Board has been withheld to his building upon that portion where the Street, if continued, would pass. This gentleman seems disposed to receive a reasonable compensation for his land. One other gentleman having an interest in this passageway has made the Committee a very liberal offer, not only in relation to his land, but of a donation of $500 towards the completion of the Street.

A large proportion of the land between Ann and Hanover Streets is now in the market and can be procured at a fair price.

The Committee in conclusion beg leave to state, that they regard this improvement not only as desirable, but absolutely necessary. We further believe, that it can be done more economically this year than at any future time. But in consequence of the multiplied improvements and widenings of streets during this financial year, the usual annual Appropriation has been very nearly expended, and we are therefore under the necessity of asking the Committee on Finance to make such arrangement, either by directing a loan, or such transfers of Appropriations, as will enable the Committee on laying out and widening Streets, to commence and complete so desirable a work during the present year.

For the Committee,

J. CULLEN AYER.

In the Board of Aldermen, Sept. 1, 1845.

Referred to the Committee on Finance, and ordered to be printed. Sent down for concurrence.

THOMAS A. DAVIS, *Mayor.*

City Document.—No. 29.

CITY OF BOSTON.

SPOT POND.

In the Board of Aldermen, Sept. 8, 1845.

Read, laid upon the table, and ordered to be printed.

Attest, S. F. McCleary, *City Clerk.*

CITY OF BOSTON.

In the Board of Aldermen, Sept. 8, 1845.

The Special Committee to whom was referred the Petition of Robert G. Shaw and ninety-nine others, requesting that the following proposition may be submitted to the citizens in their respective wards: "Shall the immediate introduction of pure water be secured by requesting the City Government to subscribe for the remaining third of the capital of the Spot Pond Aqueduct Company, with liberty to take the whole on the completion of the work, pursuant to the Charter?" having duly considered the subject, ask leave to

REPORT:

That the whole subject of introducing an abundant supply of pure, soft water into the City of Boston, is one that has for many years past engrossed much of the public attention, and there has never been but one opinion in regard to its almost absolute necessity; for indeed from the scantiness of our present supply, as well as from its general impure quality, no person, having a suitable regard to the public necessities, can for a moment entertain a doubt. These necessities are the providing suitably for the maintenance of good health, for supplying the domestic wants, and for a constant and abundant supply of water for the extinguishment of fires.

The only hesitancy that has ever been expressed, is from what foreign source, and in what manner, and at whose expense the water shall be introduced. The question seems finally to have resolved itself into this: Shall the City bring in the waters of Spot Pond or Long Pond, at its own expense, or shall the City, in its corporate capacity, be simply a stockholder of such portion of capital stock as will give it a predominant influence in the general management of the whole concern.

Since this subject has agitated the public mind, no expense on the part of the city has been spared, that the exigency of the case or the pressing public necessities require, to investigate fully the various sources of supply, the different modes of introduction, and of ascertaining as near as circumstances admit, the probable amount of expenditure requisite for bringing in and distributing to the inhabitants an abundant and never failing supply of pure soft water.

Competent and scientific Engineers have in different years, and at various seasons of the year, been employed to make surveys of the sources and the feasibility of certain routes.

Able chemists have analysed the various waters, and given us the results of their analyses; and the results have been as nearly similar as might reasonably be expected. For wherein can they vary? Spot Pond and Long Pond, the two most available sources, are where they ever have been; their elevations, their superficial areas, their capabilities for supply, and the purity of their waters have not, nor indeed can they of themselves, materially change.

In 1825, Professor Treadwell, under direction of the City Government, made a survey of the waters of Spot Pond; and in his Report he states "that a sufficient supply of water for the city may be brought from Spot Pond in common, and even in dry seasons." R. H. Eddy, Civil Engineer, surveyed this source for the city in 1836. He states in his Report: "I shall feel safe in estimating this pond capable of supplying 2,500,000 to 3,000,000 gallons per day." And again, "as the consumption increases more or less, the balance would be supplied from Mystic Pond; but no expenditure on that account would be necessary for many years;" and by statements recently made by Messrs. Treadwell and Eddy, we learn that their opinions upon this subject remain unchanged.

Messrs. Hale, Baldwin, and Treadwell surveyed this pond in 1837, and again were required by the city in 1838, to review their work, and in their Report say, "we feel bound to adhere to the opinion expressed in our former report, in favor of adopting the system of works, relying upon Spot and Mystic Ponds as the source of supply."

The estimated expense of bringing the waters of Long Pond into the city, are in the opinion of the late Water Commissioners, Messrs. Hale, Jackson and Baldwin, about $1,400,000, while on the other hand, the cost of introducing the waters of Spot Pond, of far purer quality, and adequate to meet all the wants of the citizens for many years to come, are estimated to cost about 500,000 dollars.

There is no doubt in regard to the practicability of both routes, and the adequateness of the supply, at least for many years; and it does appear to us that the only consideration now worthy of attention on the part of the citizens, is from which of the two sources, Spot Pond or Long Pond, can the supply be introduced at the least expense; for it is a matter of little moment, whether a body of individuals, incorporated for this express purpose, or whether the city bring it in. In the first place, if brought in by a special corporation, the consumer pays directly to the proprietors for the use of the water. But if brought in by the city, who pays the expense? Why, the tax-payer certainly. The valuation of this city the present year is 135,388,900 dollars, of which 81,697,200 is in real estate. A large amount of this class of property belongs comparatively to a few individuals. Their taxes would be very materially increased by the additional burden which would thus be imposed upon the city.

Where would these capitalists naturally seek a return for their outlays? Most assuredly at the hands of their tenants. So the poor tenant, at last, by an increase of his yearly rents, will find that he is, though indirectly, contributing his proportion of the expense.

In relation to the present condition of the "Spot Pond Aqueduct Company," we would briefly remark that a Report from the Executive Committee to the subscribers to the stock, has been placed in our hands, from which we learn that two-thirds of the half million of dollars, the whole amount of the capital stock has been already taken, and is distributed among a list of more than three hundred individuals, averaging about ten shares each. On this list we notice the names of many of our most respectable and wealthy citizens; and as a manifestation of their confidence in the project, four gentlemen have subscribed for $20,000 each; and we regard as an additional mark of approval, and the public estimation in which this work is held, the fact that the one hundred persons, the Committee of the Shareholders, who signed the petition now before us, are the owners and representatives of about 8,000,000 dollars worth of property. Surely a very natural inference from this is that there is unlimited confidence in the quality and quantity of the water—the economy of the measure, and its adaptedness to meet the wants of the community.

One other fact of great importance as we deem it, is stated in the Report referred to,—"that a disposition exists on the part of contractors, and the ancient proprietors of Spot Pond, to receive the shares at par, to a considerable extent in payment for the source, materials, and construction."

In conclusion, we beg leave to state that the City Council did in 1843, sanction by an almost unanimous vote, the introduction of the waters of Spot Pond, and we can see no reason why that sentiment should not obtain at the present time. We do believe that a large portion of the citizens would be very reluctant to plunge the city into a great and unnecessary debt to introduce a supply from Long Pond, far greater than the wants of the community do at present, or will for a long series of years require.

If pure soft water is to be brought into the city, let it be done at once. Sufficient data are already before the people. Spot Pond has been surveyed three several times, under the direction of the City Government, within the last twenty years; and is it generally known that the ponds in the vicinity of Boston are again at great expense undergoing a survey of Engineers from abroad?

Should the proposition made by the petitioners be at once submitted to the people, and they deem it best to advise the City Council to subscribe for the remaining third of the stock, the enterprise may be commenced this season, and within one year a pure and abundant supply of water may be introduced into our city. The Committee therefore recommend the passage of the following order.

For the Committee,
J. CULLEN AYER.

Ordered, That the citizens of the respective wards be notified to meet at their several ward rooms on Wednesday the   day of September, inst., at 12 o'clock, at noon, then and there to give their ballots for or against the following

PROPOSITION:

Shall the immediate introduction of pure water be secured by requesting the City Government to subscribe for the remaining third of the capital of the Spot Pond Aqueduct Company, with the liberty to take the whole on the completion of the work, pursuant to the charter.

City Document—No. 30.

CITY OF BOSTON.

HORSES AND CARRIAGES.

In Common Council, Sept. 11, 1845.

Read, ordered to a second reading, and to be printed.

Attest, W. P. Gregg, *Clerk C. C.*

CITY OF BOSTON.

An Ordinance for the regulation of Horses and Carriages in the streets of the City, and in relation to Sidewalks.

Be it ordained by the Mayor, Aldermen and Common Council of the City of Boston, in City Council assembled, as follows:

SECT. 1. No person having the care or ordering of any carriage of burthen or pleasure, or of any horse or cattle, shall permit the same to remain in any public street, lane or alley, so as to prevent the access of any other carriage, horse or cattle to the curb stone in front of any building, public place or square situate on such street, lane or alley, for a longer space of time than fifteen minutes after the same shall have been first placed in front of such buildings, public place or square. And if any person as aforesaid shall permit such carriage, horse or cattle to remain as aforesaid for a longer space of time than fifteen minutes, it shall be the duty of the City Marshal, and of the several constables and police officers of the City, after they have been notified of said obstruction, forthwith to remove and conduct the same to the City stable, there to be kept at the expense of such person as aforesaid; and such person shall also pay the further sum of one dollar, for the trouble arising in that behalf to the City Marshal, or other officer who shall perform the duty aforesaid :—*provided always*, that nothing herein contained shall be construed to extend to the several streets included within the limits of Faneuil Hall Market.

Sect. 2. No person shall tie or fasten any horse or cattle to any lamp-post or awning-post placed in any public street, lane or alley, or public place or square. And no person shall obstruct the flag stones laid across any public street, lane or alley, by placing or stopping such carriage, or horse or cattle upon or across said flag stones.

Sect. 3. Every person who shall offend against any of the provisions of this Ordinance shall forfeit and pay a sum not less than one dollar, nor more than twenty dollars for each offence.

Sect. 4. All ordinances and parts of ordinances inconsistent with the provisions of this ordinance are hereby repealed.

In the Board of Aldermen, Sept. 8, 1845.

Passed. Sent down for concurrence.

THOMAS A. DAVIS, *Mayor*.

City Document.—No. 31.

REPORT

OF THE

SUPERINTENDENT

OF THE

BOSTON LUNATIC HOSPITAL

AND

PHYSICIAN

OF THE

PUBLIC INSTITUTIONS

AT SOUTH BOSTON.

JULY 1, 1845.

BOSTONIA
CONDITA A.D.
1630.

BOSTON:
JOHN H. EASTBURN, CITY PRINTER.

1845.

REPORT

Of the Superintendent of the Boston Lunatic Hospital, from June 30th, 1844, *to July 1st,* 1845.

No.	Date of Admission.		Age when Admitted.	Sex.	Married or Single.	Supposed Cause.	Duration before admission.	Discharged or remains.	Present state.	Remarks.
	1839									
1	Dec.	11	25	male	single	Epilepsy,	4 years,	Remains,	Stationary,	Epileptic,
2	"	11	24	do	do	do	4 do	Died,		Death from epilepsy.
3	"	11	53	do	widower	Intemperance,	7 do	Remains,	do	
7	"	11	45	do	do		6 do	do	do	Can labor,
12	"	11	39	do	single		5 do	Died,		Death from marasmus.
13	"	11	26	do	do	Disappointed affection,	3 do	Remains,	do	Can labor.
15	"	11	33	do	do		years,	do	do	Can labor.
18	"	11	30	do	married	Intemperance,	2 do	do	do	Can labor.
19	"	18	28	female	do	Fright,	5 do	do	do	
23	"	18	54	do	single	Congenital,		do	do	Can labor.
26	"	18	45	do	married	Abuse of husband,	years,	do	do	Labors.
27	"	18	54	do	widow	Loss of property,	14 do	do	do	Can labor.
28	"	18	34	do	single		do	do	do	Knits and sews.
29	"	18	40	do	widow	Vanity,	6 do	do	do	Sews.
30	"	18	51	do	do	Vicious indulgences,	8 do	do	do	Can labor.
32	"	18	53	do	do	Domestic affliction,	11 do	do	do	Knits and sews.
33	"	18	45	do	do	Domestic trouble,	11 do	do	do	Can labor.
34	"	24	54	male	single		years,	do	do	Can labor.
35	"	24	42	do	do	Religious excitement,	7 do	do	do	Can labor.
36	"	24	39	do	do	do	12 do	do	do	Labors.
37	"	24	39	do	do		4 do	do	do	Can labor.
38	"	24	32	do	do	Disappointed affection,	7 do	do	do	Labors.
39	"	24	55	do	married		12 do	do	do	
45	"	24		do	single		3 do	do	do	Can labor.
46	"	24		do	do		years,	do	do	Can labor.
50	"	24	42	do	married	Intemperance,	2 do	do	do	
51	"	24	40	do	single		3 do	do	do	Paralytic.
52	"	24	52	female			7 do	do	do	Labors.

TABLE—*Continued.*

No.	Date of Admission.	Age when admitted.	Sex.	Married or Single.	Supposed Cause.	Duration before admission.	Discharged or remains.	Present state.	Remarks.
	1839.								
53	Dec. 24		female		Disappointed affection,	12 years,	Remains,	Stationary.	Can labor.
54	" 24	45	do		Vicious habits,	years,	do	do	Labors.
59	" 30	32	do			7 do	do	do	Sews some.
60	" 30	30	do		Intemperance,	years,	do	do	
61	" 30	66	do			years,	do	do	Can labor.
63	" 30	62	do	widow	Loss of property,	years,	do	do	Knits.
64	" 30	40	do	single	Ill health,	years,	do	do	Labors.
65	" 31	55	do	widow	Loss of property,	years,	Died,		Death from scrofula.
	1840								
66	Jan. 7	64	male	single	Disappointed affection.	17 do	Remains,	Stationary,	Epileptic.
67	" 7	50	female	do	Indulgence of temper,	20 years,	do	do	Sews.
69	" 7	31	male	do	Sun-stroke,	8 do	do	do	
71	" 7	42	do	do	Hereditary,	12 do	do	do	Can labor.
72	" 9		female	widow	Epilepsy,	4 do	do	do	Sews some.
74	" 15		male	single	Masturbation,	10 do	do	do	Can't labor.
77	Feb. 8		female	do		4 do	do	do	Sews.
80	Mar. 4	39	male	do	Intemperance,	10 do	do	do	Health failing.
82	" 4	60	female	married	Puerperal state,	21 do	do	do	
83	" 4	36	male	single	Hard study,	7 do	do	do	
84	" 4	38	female	widow	Pregnancy,	11 do	do	do	Knits
90	April 21	19	do	single	Vicious habits,		do	do	Can labor.
92	" 21	75	do	widow	Ill health,	3 do	do	do	
93	" 21	36	do	married	Hereditary,	1 year,	do	do	Can labor.
101	May 9	22	male	single	Fright,	2 do	do	do	Can labor.
106	July 25	35	female	do	Ill health,	2 months.	do	do	
109	" 28	52	male	married	Intemperance,	12 years,	do	do	
110	" 28	55	do	do	Epilepsy,	10 do	do	do	Totally blind.
118	Oct. 20	33	do	do	Disappointed affection,	years,	do	do	
126	Dec. 3	35	female	do	Injury to head,	3 do	do	do	Labors.

	1841								
130	Jan. 12	36	female	widow		5 years,	Remains,	Stationary,	Sews some.
138	Mar. 3	32	male	single	Masturbation,	6 do	do	do	
139	" 17	60	do	do		20 do	do	do	
144	April 10		do	do	Disappointed affection,	years,	do	do	Can labor.
151	June 19		female	married		8 do	do	do	Knits.
165	Oct. 8	46	do	widow	Loss of a limb,	5 days,	do	do	
	1842.								
174	Jan. 3	36	female	married			do	do	
180	Feb. 14	43	male	single	Disappointed affection,	7 years,	do	do	Hereditary.
194	July 1	36	do	married	Intemperance,	years,	do	do	Can labor.
195	" 12	16	do	single	Epilepsy,	do	do	do	Idiotic.
197	" 16	40	female	married	Abuse of husband,	2 do	do	Improved,	Knits and sews.
199	Aug. 25	38	male	do		1 week,	do	Stationary,	Can labor.
203	Sept. 14	46	do	single	Loss of property,	years,	do	do	
204	" 17	23	do	do	Intemperance,		Died,		Death from marasmus.
208	Oct. 1	46	female	widow		years,	Remains,	do	Labors.
210	" 5	30	male	single	Epilepsy,		do	do	Can labor.
211	" 5	26	do	do	Intemperance,		Died,		Death from consumption.
212	" 5	22	do	do	Congenital,		Remains,	do	Hereditary, can labor.
213	" 5		female	do	Intemperance,	years,	do	do	Labors.
	1841.								
215	Nov. 18	46	male	married	do	years,	do	do	Labors.
	1842.								
225	Dec. 15	57	do	single	Loss of sight,	2 years,	Died,		Death from consumption.
226	" 15	24	female	do	Fright,	4 do	Remains,	do	Epileptic, knits.
227	" 15	26	do	do		years,	do	do	Labors.
	1843.								
234	Jan. 16	45	do	single		7 years,	do	do	Homicidal.
237	Feb. 23	46	do	married	Domestic trouble,	20 months,	do	Improved,	Knits and sews.
240	March 23	40	male	do	Hereditary,	7 years,	do	Stationary,	Suicidal.
247	April 24	24	do	do	Intemperance,	6 weeks,	do	do	Can labor.
248	April 28	35	do	do	do	6 months,	do	do	Hereditary, can labor,

TABLE—*Continued.*

No.	Date of Admission.		Age when admitted.	Sex.	Married or Single.	Suppposed Cause.	Duration before admission.	Discharged or remains.	Present state.	Remarks.
	1843.									
249	May	1	26	female	do	Domestic trouble,	6 do	Remains,	Stationary,	Can labor.
253	"	17		male	do		years,	Died,		Chronic inflamation of [brain.
254	June	3	40	do	single	" Millerism,"	months,	Remains,	do	Labors.
259	"	29		do	do	Over-exertion,	4 years,	Dischg'd,	Recover'd,	
262	July	24	65	female	widow		3 do	Remains,	Stationary,	Sews.
264	"	25	30	male	married	Religious excitement,	10 months,	do	do	Can labor.
265	Aug.	2	36	female	do		1 week,	do	do	do
266	"	18	24	male	single		year	do	do	do
269	Sept.	7	26	female	do	Ill health,	do	do	Improved,	do
272	Nov.	11	30	male	do	Intemperance,	months,	do	do	Labors.
273	"	17	55	female	widow	Puerperal state,	19 years,	do	Stationary,	
	1844.									
275	Jan.	22	53	do	single		8 years,	do	Improved,	
277	Feb.	17	21	do	do		6 weeks,	do	Stationary,	Labors.
278	March	15	28	male	do	Ill treatment,	2 do	Died,	do	Consumption.
279	"	19	51	do	married	Religious excitement,	22 years,	Remains,	do	Can labor.
280	"	26	32	do	single		years,	do	do	Hereditary.
281	"	26	28	female	do	Hard labor,	1 month,	do	do	Can labor.
282	April	9	61	do	widow	Loss of child,	6 months,	do	do	Hereditary.
283	May	2	30	do	single	Unrequited love,	3 do	Dischg'd,	do	Has since recovered.
284	"	16	49	male	married		3 days,	Remains,	do	Paralytic.
285	June	14	35	do	single	Ill health,	4 months,	Dischg'd,	Recover'd,	
286	"	17	38	do	married	do	years,	do	Improved,	
287	"	24	34	do	do	Intemperance,	3 weeks,	do	Recover'd,	Hereditary.
288	"	29	34	do	do	do	3 do	do	do	do
289	July	13	29	do	single	Fright,	1 week,	do	do	
290	"	20	14	female	do	Fever,	12 years,	Remains,	Stationary,	
291	"	22	26	do	do		weeks,	do	do	
292	"	27	31	male	do	Intermittent fever.	18 months,	do	do	

293	"	27	32	male	single		1 week,	Dischg'd,	Recover'd,	
294	"	31		female	do			Remains,	Stationary,	
295	Aug.	8	72	do	widow	Intemperance,	12 years,	do	do	
296	"	29	50	female	married	Domestic trouble,	5 years,	Remains,	Stationary,	Labors.
297	Sept.	9	28	do	do		6 weeks,	do	do	Second attack.
298	"	20	25	do	single	Unrequited love,	weeks,	do	Improved,	Knits and sews.
299	Oct.	14	23	male	do	Ill health,	3 years,	do	Stationary,	
300	"	19	35	do	do	" Millerism,"		do	do	Second attack.
301	"	28	26	do	married		3 months,	do	do	Can labor.
302	Nov.	1	20	do	single	Injury to head,		do	do	do
303	"	13	33	do	do			do	do	do
304	"	20	42	do	married	Intemperance,		Dischg'd,	Recover'd,	Third attack.
305	Dec.	11	43	do	single	Ill health,	2 years,	Remains,	Stationary,	
306	"	11	24	do	do	Intemperance,	weeks,	do	Improved,	Can labor.
307	"	30	22	do	do	Masturbation,		do	Stationary,	Epileptic, can labor.
	1845.									
308	Feb.	28	20	do	do	do	2 months,	do	Improved,	Can labor.
309	April	7	36	do	married	Paralysis,	3 do.	do	Stationary,	Paralytic.
310	"	9	32	do	single	Intemperance,		do	do	Can labor.
311	"	18	37	do	married			do	do	
312	May	3	41	female	widow		13 years,	do	do	Homicidal.
313	"	5	32	male	single	Home-sickness,	1 week,	do	do	Second attack.
314	"	7	46	female	widow	Intemperance,	3 months,	Died,		Death from exhaustion
315	"	8	43	male	married	Loss of property,	6 years,	Remains,	do	
316	"	9	36	do	do	Intemperance,		Dischg'd,	Recover'd,	
317	"	12		do	single			Remains,	Stationary,	
318	"	30		do	married	do	2 weeks,	Dischg'd,	Recover'd,	
319	June	3	43	do	do	Loss of property,	4 years,	Remains,	Stationary,	Paralytic.
320	"	17	36	do	do	Intemperance,	days,	do	Improved,	2d attack, can labor.

TABLE 1.—GENERAL TABLE.

No. of Patients admitted since the Hospital was opened,	320
No. of Patients discharged since,	200
“ “ admitted this year,	32
“ “ resident during the year,	140
“ “ of which were Males,	82
Females,	58
Married,	40
Single,	73
Widows,	19
Widowers,	2
Unknown,	6

TABLE 2.

Birth Place or Residence.

No. of native or resident citizens of Boston having a settlement therein,	40
No. of native citizens of Massachusetts,	3
“ “ “ of New Hampshire,	6
“ “ “ of Vermont,	1
“ “ “ of Maine,	9
“ “ “ of Rhode Island,	2
“ “ “ of Connecticut,	1
“ “ “ of New York,	2
“ “ “ of Pennsylvania,	2
“ “ “ of North Carolina,	1
“ “ “ of Georgia,	1
“ “ “ of New Brunswick,	1
“ “ “ of West Indies,	1
“ “ “ of England,	6
“ “ “ of Scotland,	3
“ “ “ of Ireland,	56
“ “ “ of France,	1
“ “ “ of Germany,	3
“ “ “ of Italy,	1
Total,	140

TABLE 3.

Admissions from July 1st, 1844.

No. of Patients admitted :	
Males, - - - -	23
Females, - - - -	9—32
No. of Patients who have been insane less than one year :	
Males, - - - -	15
Females, - - - -	4—19
No. of Patients who have been insane more than one year :	
Males, - - - -	8
Females, - - - -	5—13

TABLE 4.

Ages on Admission.

Under 20 years, - - - -	1
From 20 to 25 years, - - -	5
" 25 " 30 " - - - -	7
" 30 " 35 " - - - -	5
" 35 " 40 " - - - -	6
" 40 " 45 " - - - -	5
" 45 " 50 " - - - -	1
" 50 " 55 " - - - -	1
72 - - - -	1—32

TABLE 5.

Civil Condition.

Males, married, - - - -	9
" single, - - - -	14—23
Females, married, - - - -	2
" single, - - - -	4
" widowed, - - - -	3— 9
	32

TABLE 6.

Supposed Causes.

	Males.	Females.
Intemperance,	6	2
Ill health,	2	
Masturbation,	2	
Loss of property,	2	
Home-sickness,	1	
Paralysis,	1	
Injury to head,	1	
" Millerism,"	1	
Fright,	1	
Fever,	1	1
Domestic trouble,		1
Unrequited love,		1
Unknown,	5	4
	23	9—32

TABLE 7.

Occupation of Patients.

Housekeepers,	3
Domestics,	4
Sempstress,	1
Laundress,	1
Laborers,	4
Seamen,	4
Farmers,	2
Merchants,	3
Shoemaker,	1
Cotton spinner,	1
Weaver,	1
Carpenters,	2
Tin plate worker,	1
Paper maker,	1
Painter,	1
Sailmaker,	1
A child,	1—32

TABLE 8.

Exhibiting the number of Discharges and Deaths, with the Condition of those discharged during the year.

Discharged,		
Males,	17	
Females,	3	20
Restored,		
Males,	9	
Improved,		
Male,	1	
Unimproved,		
Female,	1	
Died,		
Males,	7	
Females,	2	9

TABLE 9.

Causes of Death.

Consumption,	3	
Marasmus,	2	
Epilepsy,	1	
Chronic inflammation of brain,	1	
Exhaustion,	1	
Scrofula,	1	9

TABLE 10.

Showing the number of Admissions and Discharges, with the average number of patients in each month.

	Admissions.	Discharges.	Average.
July,	6	2	112
August,	2	0	114
September,	2	6	110
October,	3	1	112
November,	3	0	115
December,	3	2	116
January,	0	0	116
February,	1	2	115
March,	0	1	114
April,	3	0	117
May,	7	1	123
June,	2	5	120
	32	20	

General average, 115⅓.

TABLE 11.

Largest No. of Patients at any one period.

May 31st,		
Males,	- - - -	68
Females,	- - - -	56—124

Smallest number.

July 19th and 20th,		
Males,	- - - -	60
Females,	- - - -	47—107

This Report of the state and condition of the Boston Lunatic Hospital, for the year ending with the thirtieth of June, is hereby presented to the Honorable Board of Visitors, agreeably to the requirement of a City Ordinance.

The success that has attended the operations of the Hospital during former years has been manifested to a similar degree through the past year. The same exemption from epidemic disease, from accidents, suicide, sudden and unanticipated deaths, has been experienced here. For all which prosperity the deepest gratitude is done to Him, whose tender mercies are over all His works.

The number of patients treated during the year, has been but a little larger than in the year previous. A gradual increase, however, is noticed from period to period. As the advantages of the institution become better known and appreciated by the poor and destitute, more insane paupers will be sent here; more such, (and these are principally aliens,—a floating population,) from the neighboring towns will be thrown upon the charity of the City for support.

From an inspection of the table of birth place, or residence, it will be seen that forty of the one hundred and forty patients under treatment during the year were native or resident citizens of Boston; twenty-two of the New England, and six of other States; that fifty-six were from Ireland, and sixteen from other countries; making the total of aliens to be a little over half the number of native residents.

Nineteen cases are reported as having commenced within one year. This date is given, not so much from a positive knowledge of the time when the disease discovered itself, (for this information is not readily acquired,) as from a hope that the patient had not longer been insane. For it is a painful thought that the sufferer is no more a subject for remedial treatment; that time has passed sentence on him, and all that can be expected for him, is, to drag out the remainder of existence with what little peace and comfort his present situation may afford. Among the cases of less duration than one year are reckoned six, that are of patients who have been the subjects of previous attacks of insanity. Three of these have suffered once before, and the remaining three have had three or more attacks. One of the number recovered from his derangement a few years ago, but the constant practice of the secret vice, an hereditary taint, with occasional fits of epilepsy, served to reproduce the disease. Knowing the circumstances which attend the case, it is hardly to be expected that the patient's condition will ever be better than it now is. Two others of the number are men of intemperate habits. They have now recovered; but, should they live, and continue to indulge in their propensity for spirituous liquors, (which may be, as it often is, an insane one) it will bring them here again and again, till hopeless alienation of reason shuts them from the world forever. It is pleasant to predict entire restoration for four of those now remaining in the Hospital, who, on their admission, had not been insane more than one year. This happy event is not, of course, certain; but the evident improvement that has taken place in these cases warrants this prognosis. One case, that of an intelligent young man, seemed rapidly recover-ing, when he was seized by a severe catarrhal fever. This, leaving him, was followed by a return of insanity; and his course, instead of brightening and terminating in the joys of health, is now retrograding. One of the number of those who have been insane less than a year, is a melancholic woman, whose disease, I have no doubt, was aggravated, (as I am satisfied has often been the case before,) by her having been forced to appear in Court, where, as she supposed, she was arraigned for the commission of crime, and sentenced to execution. Cannot a rule so fraught with injury to the insane be either modified or abolished?

The number of deaths occurring within the year has not been large. Considering the length of time that the majority of the inmates have been insane, it is a matter of gratification that so few have declined. It is not to be supposed, however, that in years to come the number of deaths will be any less, in proportion to the number of patients, than during the past year. Old age, with its concomitant and inseparable diseases, must soon take off several of our household. There are now in the hospital nine patients between the ages of sixty and seventy, five between seventy and eighty, and one over eighty. Many patients, also, from their feeble and attenuated bodies, must be regarded as already old; who, "bowed and bent, wax gray and ghastly, withering ere their time," and who must soon go to the grave, as also must others, suffering in a greater or less degree from organic disease of the brain, heart or lungs. It cannot be expected, moreover, in a family of a hundred and twenty persons, that fatal acute disease, a fever or an inflammation, should not occasionally occur. That the inmates of this house, from the time of its erection, have been exempt from such attacks, almost without exception, is a fact, which may be of some interest to those who remember the thousand exposures to sickness, and the general manner of treatment to which lunatics were subjected before the asylums of the present day were constructed.

The chief embarrassment in the way of successful action has been the crowded condition of the house. This subject was noticed in the last annual report. The same observations are true as to the present state of the institution; and should have more force, from the fact that the number of patients constantly residing in the hospital during the last year has been considerably larger than in the year preceding. This increase is not so much real as apparent; since but three patients more have been received this year than the last. To account for this seeming augmentation of numbers, and the crowded state of our apartments, it should be remarked that the average duration of stay in the house has been prolonged; and that this average has not been much diminished by the number of deaths which may have occurred, nor by the discharges from other causes. To explain why it is that the patients reside here for a longer period this year than the last, it may be sufficiently satisfactory to state what has been alluded to in former reports: viz,—that the curability of this disease depends very much on its character, and the length of time that the patient has suffered from it. Receiving our patients from other hospitals, and from the almshouse, as is frequently the case, and being compelled to admit many cases which have become incurable from the lapse of that only period in which any hope of cure could be entertained, it necessarily happens, that not only our number must increase, but that the residence of each individual must continue till death discharges him.

From Table 3d, it appears that the number of patients admitted since July 1st, 1844, was thirty two; of whom twenty-three were males. Throughout the year the number of males has exceeded that of females, as seen in Table 1. For four months, there were resident here ten more males than females; for one month, nine; for two months and a few days, eight; for a month and a half, seven; and, for shorter periods, the difference has been less. From this statement it appears that the male wing of the hospital must have been much the more crowded: so much so, that danger to life has been feared among those obliged to sleep together in the attic dormitories, as also in those single rooms where it has been necessary for good reasons to confine two patients at night.

It frequently happens that a few of our patients, such as are harmless, are permitted to be absent at the request of their friends. This is now the case with six. The absence of this number is of considerable advantage to those remaining; affording more room for new comers, and allowing more space for all. Still the house is full; so that even the simple classification of the inmates into those who are turbulent, and those who are quiet, cannot, but with great difficulty, be made. The former class should be confined in single rooms at night, and the latter sleep together in the large attic dormitories. The single rooms are now occupied, not only by such, as for various reasons cannot be placed elsewhere but several of these apartments have two inmates each; either of whom, if allowed to lie in the attic, would disturb the rest; and it seems better that their noise and turbulence should be confined to themselves, rather than that others should suffer from them. These single rooms are 12 by 8 feet in size, a space manifestly too small for the accommodation of more than one patient. The attic rooms are 60 by 40 feet: and situated as they are, immediately under the roof, are not equally ventilated throughout; and in the summer, notwithstanding the windows are kept open during the day and partially through the night, the patients, numbering about twenty-five, who lodge there, must suffer much more from heat than if they slept below. These circumstances show plainly, that the attic dormitories are too small for the number occupying them; and, moreover, that there is not a sufficient number of small sleeping apartments. With the rapid growth of our City it is to be expected that the number of insane, as well as other paupers, will increase. And, while this hospital, from the conditions of the Ordinance which gave birth to it, is simply a receptacle, and but to a small extent a curative establishment, the average number of its inmates will annually become larger.

Intemperance, as in years past, has proved a fruitful cause of the malady for which patients are sent here. One quarter of the cases have arisen from the habit of spirit drinking. It is to be noticed, that the causes in all cases are *supposed*, or are such as are *assigned* by the friends of the patients. With all the art and skill a physician may possess, he can never, perhaps, pronounce with confidence and certainty what may have been the originating movement towards insanity in the madman's brain. It may take its rise far back in constitutional susceptibility, in tendencies to the disease transmitted through many generations. It may originate in a faulty education; or, what is common in this hospital, in the want of all education; the patient never having been taught in childhood any maxims of self-control, or self-reliance: having been left to the indulgence of every appetite and passion by ignorant and superstitious parents, who had no desire that their offspring should become more intelligent or moral than themselves. It is scarcely to be expected, that, under such influences, cases of insanity should be rare, or that such a class of individuals, when living in the outer circles of the vortex of intemperance should be gradually drawn to its centre, where delirium tremens and insanity sit enthroned over the engulphed reason.

An idea prevails among many of our citizens, that the drunkard's disease, "Delirium Tremens," is a common form of insanity in this hospital. This is not the fact. No patients with that disease are admitted. Would that such as are sent here, whose insanity arises from intemperance, were as curable as those suffering from the former. From an experience of sixteen years spent in public hospitals, where delirium tremens was almost always to be found, I am prepared to say, that no malady is surer to terminate in health than this, *provided that no other disease attends it*. It is most commonly complicated with inflammation of the lungs, or with epilepsy. When these occur death is most often the result.

Of 76 cases of delirium tremens treated in the House of Correction—and these are all that have occurred there during a period of two years and eight months—no death has taken place; unless we except that of a patient who was attacked with Pleuro-pneumonia, the severest form of lung fever, just as delirium tremens was leaving him. Epileptic convulsions attended a few of the cases. The only treatment adopted,—and this in every case,—was cold water administered as often, and in as large quantities as the patient could be induced to take it.

True insanity arising from intemperate habits, unlike delirium tremens, is found to be a disease of slow development in the generality of cases. The friends of the patient have not, for many days at least, been without their doubts as to his sanity. The *busy earnestness* of the man laboring under delirium tremens is not present in the insane man: nor has the latter the usual half-dilated and almost fixed pupil, nor that tremor of tongue and limbs of the former. The differences between the two affections are indeed essential, and readily discerned by the experienced observer: so that it is very seldom that the Justices of the Police Court, who take cognizance of insane cases as well as of common drunkards, send a case of delirium tremens to this hospital.

The subject of employment, for the male patients particularly, is one frequently alluded to in former reports of this house. As yet, however, nothing has been done to relieve the monotony that attends their residence here. It is truly a melancholy sight, in passing through the halls of the hospital, to witness so many able-bodied men without occupation or amusement.* In this condition their life is but little in advance of the vegetable. They breathe, they eat, they sleep. This is nearly all they accomplish from day to day.

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* This statement, so far as regards amusements for the patients, though true of the past, will not be so of the coming year; as the bowling-alley and the swings, directed by your Honorable Board to be constructed, will soon come into use.

In the column of "Remarks" commencing on page 3, of this report, the words "can labor" and "labors" are put against the number designating certain patients. Of those males who can labor there are twenty-seven. These labor often, though to a very limited extent; while there are but six who are constantly employed. Laborious occupation is not advantageous for all, either for those cases usually termed recent, or for the confirmed cases of insanity. Hence only such as can labor without injury to themselves are here enumerated. Were there business sufficient to engage all these, their time might be occupied profitably and pleasantly to themselves. To some of those whose insanity has been of short duration, labor would prove a remedial means of great value, diverting their minds from the subject of their delusions, repressing the excitement so much nursed by idleness, and teaching the reality of life, and the blessings within the reach of those who seek them.

In my report for the year 1842–3, the importance of labor as a means for the relief and cure of many of the insane; the number of patients who could work with benefit to themselves and the institution; the small quantity of land, less than is attached to any insane asylum of its size in the country, were shown: and a plan,—that of removing the barns and outhouses belonging to the House of industry, now situated immediately in front of this hospital, and of allowing the land on which they stand to be made a part of the garden of the hospital,—was proposed.

The statements and arguments then used have increased in importance with the increasing number of our inmates. I would beg leave to bring this subject again to the notice of the Honorable Board of Visitors of this Hospital, in the hope, that a movement promising so much benefit to this establishment, to say nothing of the neighboring houses, may be made.

The advantages of reading are usually considered as very important to the insane. Books of travels, history, tales, &c., and newspapers are eagerly sought by them. When this hospital was opened, several gentlemen, booksellers, contributed books towards furnishing a library for the patients. The works presented were, with scarcely an exception, of a religious character, and, though excellent in themselves, were quite unsuited to the wants of the house. Not capable of appreciating the merits of such books, the patients have gradually destroyed them, as they came within their reach; so that the library (if the few books we had could be dignified by that title) has now nearly disappeared. The newspapers gratuitously sent here are those usually considered the organs of those religious denominations whose sentiments they advocate. These contain many items of interest to the general reader, with many reflections on men and morals suited to the capacity and inclinations of the insane. Could a small annual appropriation be mode for collecting a library of such books of good tendency as would best suit our inmates, and for obtaining a few newspapers of general interest, a good deal would be accomplished towards rendering the lives of the patients more comfortable, and would assist them in passing their time more contentedly than at present; taking their thoughts off from the microcosm of themselves, peopled with fancies and beings innumerable as it is wont to be, and leading them out into the wide world of reality.

The building projected last year for the residence of noisy and filthy patients has been completed since the last report: and in all respects serves the purpose of its erection. A great change has since taken place in the main building in respect to noise. The patients here seldom disturb each other by their turbulence during the night or in the day. Those who become noisy or uncontrollable are secluded at once in the "Cottage" for a longer or shorter time, and thus peace reigns through the halls. Every indulgence and attention is given to those secluded, compatible with their condition. In no possible way, (it has been thought by gentlemen who have visited us conversant with such cases of insanity,) could they be rendered more comfortable.

Our thanks we again offer to the gentlemen, editors and publishers of the following named newspapers, for their continued kindness in sending us their publications: viz.—The Christain Witness, the New England Puritan, Zion's Herald, the Christian Watchman, and the Missionary Herald.

We can never forget the self-sacrificing benevolence of the Rev. Louis Dwight, who, for some years past, has bestowed his gratuitous services, as a chaplain, to this institution.

To your Honorable Board chiefly, and to the gentlemen directing and superintending the Houses of Industry and Correction, as also to all immediately connected with me in the management of this hospital, I beg leave to present my most cordial thanks for the kind confidence, favor, and assistance which they have manifested towards me during the year that has passed.

Respectfully submitted,

C. H. STEDMAN, *Superintendent.*

Boston Lunatic Hospital,
July 1*st*, 1845.

The following is an abstract of the record of the admissions, discharges, &c., of patients received into the Hospitals of the Houses of Industry and of Correction, from June 30th, 1844 to July 1st, 1845.

HOUSE OF INDUSTRY.

No. of Patients remaining, July 1st, 1844,		47
" " admitted since, - -		704
Whole No. under treatment, - - -		751
Of these have recovered, - -	501	
" " improved, - -	86	
" " been removed, -	27	
" " died, - - -	97	
No. remaining at this date, - -	40	
Total,		751

HOUSE OF CORRECTION.

No. of Patients remaining, July 1st, 1844,		8
" " admitted since, - -		422
Whole No. under treatment, - - -		430
Of these have recovered, - -	377	
" " improved, - -	28	
" " been removed, -	8	
" " died, - - -	3	
No. remaining at this date, -	14	
Total,		430

SUMMARY.

Whole No. of Patients under treatment in each House, from June 30th, 1844 to July 1st, 1845.

Lunatic Hospital, - - - - - -	140
House of Industry, - - - - - -	751
House of Correction, - - - - -	430
TOTAL,	1321

Respectfully submitted,

C. H. STEDMAN,
Physician to the Public Institutions.

In Board of Aldermen, Sept. 8, 1845.

Laid on the table, and ordered to be printed.

Attest, S. F. McCLEARY, *City Clerk.*

City Document.—No. 32.

EIGHTH ANNUAL REPORT.

CITY OF BOSTON.

FIRE DEPARTMENT.

Engineers' Office, City Hall, Sept. 1, 1845.

To the Honorable Mayor and Aldermen,

Gentlemen:

In conformity with my duty, I herewith lay before your Honorable Board, a list of Officers and Members attached to the Boston Fire Department, with their ages and residences, also the Apparatus under their charge, and its condition, the number of Fires and Alarms the past year, also the amount of Loss as far as can be ascertained; the Reservoirs and other resources from which water can be obtained in case of Fire.

WILLIAM BARNICOAT,
Chief Engineer Boston Fire Department.

CHIEF ENGINEER,

WILLIAM BARNICOAT,	51 Belknap street.

ASSISTANT ENGINEERS,

HENRY SMITH,	Warren street.
JAMES G. SANDERSON,	Myrtle street.
CHARLES S. CLARK,	Tileston street.
JOHN SHELTON,	Hartford place.
PETER C. JONES,	Warren street.
THOMAS A. WILLIAMS,	Fayette street.
JOSHUA JACOBS,	Hancock street.

HENRY HART, *Clerk.*

WASHINGTON ENGINE COMPANY, No. 3.

House in Salem Street.

Members.	Ages.	Residence.
Dyke William, *Foreman,*	41	13 Snowhill street.
Mason Samuel L. *As. For.*	28	98 Endicott "
Stewart Calvin, *Clerk,*	23	39 Friend "
Baker Walter W.	24	Salem place.
Butler Orlando W.	24	72 Leverett street.
Burley Thomas H.	23	55 Salem "
Carle Benjamin,	30	8 Morton "
Clements Jacob S.	33	16 Merrimac "
Coots Henry R.	23	35 Salem "
Chesley Lemuel,	23	Endicott court.
Dodge Henry U.	33	25 Friend street.
Dearborn Thomas J.	24	35 Salem "
Edgerly John S.	24	Morton "
Farmer Jesse,	40	6 Gouch "
Fisher Philander,	24	29 Prince "
Fisk Samuel C.	25	16 Cooper "
Gill Samuel W.	35	8 Canal "
Gifford William M.	23	72 Leverett "

Members.	Ages.	Residence.
Gage Putnam F.	22	Thatcher court.
Houston Arthur,	25	Sheaf street.
Hardy Daniel,	29	22 Cooper "
Harris William,	30	39 Prince "
Hayward Henry M.	22	Charlestown street.
Hutchins John E.	23	Noyes place.
Jordan Joseph H.	22	Cor. Cutting & Leverett sts.
Jacobs John S.	21	Cooper street.
Knight David E.	21	Noyes place.
Norwood James H.	27	29 Prince street.
Nason Richard,	25	Endicott court.
Perkins Robert R.	23	" "
Pettengale Benjamin,	29	8 Charlestown street.
Ricker Daniel J.	22	Noyes place.
Roberts George,	24	Endicott court.
Ricker George D.	21	29 Brattle street.
Reed George A.	21	74 Leverett "
Sargent Francis L.	25	19 Prince "
Smart George,	26	Cor. Hanover and Prince sts.
Warren Edward, *Steward,*	29	Carroll place.
Warren John C.	22	154 Endicott street.
Woodman George,	26	157 Hanover "

40 Members.

Condition of House and Apparatus.

Engine built in 1836, by S. Thayer, of Boston; its condition good; Diameter of Cylinders, 6⅝ inches; Stroke of Piston, 10¾ inches; 27 feet of good Suction Hose. There are 550 feet of Leading Hose, of which 75 feet are indifferent; one Hose Carriage, 8 Buckets and 2 Axes. The condition of House is good.

LYMAN ENGINE COMPANY, No. 5.

House in Dock Square.

Members.	Ages.	Residence.
Gorham Horace S. *For.*	36	22 Causeway street.
Ryan John S. *As. For.*	28	14 " "
Ellis Jonathan R. *Clerk,*	28	7 Thatcher court.
Avery Horatio N.	29	25 Elm street.
Bolton Luther C.	38	1 Harmony court.
Bessey Albion P.	22	7 Brattle street.
Burroughs Isaac H.	23	9 Exchange street.
Burkett Edward K.	25	39 Friend "
Coffin Gardner S.	27	4 Garden Court street.
Collins Walter R.	25	12 Marshall "
Collins George,	21	4 Morton "
Clark James H.	21	4 Thatcher "
Davis Amos R.	25	27 Oliver "
Dunham Ezra R.	23	25 Elm "
Edson Jacob,	29	49 Billerica "
Ellis Daniel,	27	7 Thatcher court.
Goddard Timothy B.	22	9 Exchange street.
Gould Cyrus P.	41	4 Carnes' court.
Gorham Matthias,	22	22 Causeway street.
Hicks Richard C.	29	5 Williams "
Holt Harvey P.	24	2 Oliver "
Holt George S.	29	9 Exchange "
Hall Augustus J. *Steward,*	29	5 Mulberry place.
Ide Henry C.	22	3 Merrimac street.
Knight Calvin S.	29	73 Nashua "
Knight Josiah,	23	3 Merrimac "
Leavitt Charles,	28	129 Court "
Moore Francis L.	28	9 Exchange "
McClenathan Josiah,	33	4 Morton "
Moore Pliny F.	25	22 Endicott "
Miller Seth P.	25	42 Charlestown street.
Penniman John M.	23	5 Mulberry place.
Pease Silas H.	22	9 Exchange street.
Phippen John,	28	8 Cross "
Ricker Jethro H.	29	27 Garden "
Reed Solomon,	33	84 Mt. Vernon "
Stone Stephen H.	25	27 Billerica "
Staples Foxwell C.	25	2 Hanover court.
Sterling David L.	24	4 North Margin street.
Whittier Lewis,	24	7 Brattle "

40 Members.

Condition of House and Apparatus.

Engine built in 1835, by W. C. Hunneman, of Roxbury; its condition good; Diameter of Cylinders, 6 inches; Stroke of Piston, 14 inches; 26 feet of good Suction Hose. There are 510 feet of Leading Hose, 185 feet of which are indifferent. One Hose Carriage, 8 Buckets and 3 Axes. The condition of the House poor.

HERO ENGINE COMPANY, No. 6.

House in Derne Street.

Members.	Ages.	Residence.
Bowker Theodore P. *For.*	31	60 Pinckney street.
Balcom Reuben, *As. For.*	31	49 Southac "
Daniels Charles P. *clerk,*	25	2 Grove "
Adams Joseph K.	27	5 Pinckney "
Allen James W.	21	306 Washington street.
Bagley Perkins H.	29	Chestnut "
Bickford James,	36	84 Cambridge "
Bennett Albert P.	25	26 May "
Bailey Leonard,	21	4 Staniford place.
Blaney Charles,	30	7 West Cedar street.
Colby Moses C.	22	84 Cambridge "
Cary Phineas, jr.	22	1 West Centre "
Clouston William,	24	21 S. Russell "
Carlisle William A.	24	12 Derne "
Cooley Barnard,	25	9 Chambers "
Church Samuel,	23	6 W. Cedar "
Damrell Thomas,	24	West Centre "
Henderson William,	27	15 S. Russell "
Knowlton Arad,	40	21 " "
Longley Isaac,	21	3 West Centre "
Libby William F.	24	Cor. Charlestown street.
Mountford Charles,	25	18 Wall street.
Martis Anthony, *Steward,*	31	Blossom street.
Redlon Cyrus,	29	10 West Cedar street.
Rice Richard H.	22	Howard "
Smith John H.	25	9 Myrtle "
Smith Samuel,	27	20 Thacher "

Members.	Ages.	Residence.
Sanborn William A.	31	60 Pinckney street.
Stone Thaddeus A.	34	9 Cedar "
Swallow William A.	23	4 Rollins place.
Whitney Otis C.	37	9 Myrtle street.
Whitney Franklin E.	25	68 Cambridge street.
Wilson Cushing B.	33	111 " "
Wilkinson Ware,	34	57 Temple "
White James M.	22	58 Pinckney "
Wright William,	23	8 W. Centre "
Wright Simon,	26	8 " "
Whitwell William, jr.	21	17 Pinckney "

38 Members.

Condition of House and Apparatus.

Engine built in 1808, by E. Thayer, of Boston; its condition good; Diameter of Cylinders, 6½ inches; Stroke of Piston, 12 inches; 26 feet 6 inches of good Suction Hose. There are 500 feet of Leading Hose, all of which is in good order. One Hose Carriage, 10 Buckets and 2 Axes. The condition of the House good.

HOWARD ENGINE COMPANY, No. 7.

House in Pearl Street.

Members.	Ages.	Residence.
Ball John, *Foreman,*	35	14 Battery-march street.
Lewis William M. *As. For.*	32	98 Purchase "
Lawrence John, *Clerk,*	22	14 Battery-march "
Bridge Theodore A.	22	52 South "
Bickford Samuel L.	33	143 Milk "
Cragin Samuel,	26	97 Purchase "
Clough Josiah S.	26	2 Oliver "
Cunningham James,	23	10 Washington place.
Case Albert B.	40	29 Purchase street.
Emery Joseph S.	25	106½ " "
Goddard George W.	34	5 " place.
Green Thomas B.	35	Ingersoll "

Members.	Ages.	Members.
Gove Abiel,	26	6 Purchase place.
Hinds Orlando,	28	9 Pearl street.
Johnson Amos,	27	Ingersoll place.
Judkins Dudley,	23	18 Williams street.
Keay Freeman L.	25	207 Broad "
King George E.	24	84 Sea "
Kellum John,	26	160 Purchase "
Leonard Abiel L.	24	Spear place.
Lloyd Francis,	21	Purchase "
McClennen Caleb S. *St'd*,	30	Ingersoll "
Melzard George W.	24	146 Purchase street.
Morgan Miles R.	25	146 " "
Manchester Thomas W.	22	27 Oliver "
McClary Orson R.	22	27 " "
McClennen George,	23	115 Purchase "
Noyes James,	24	2 Oliver "
Newhall Henry E.	21	6 Washington square.
Owen Henry,	23	5 Belcher's lane.
Peterson Christian F.	24	Purchase street.
Putnam George A.	22	74 Federal "
Stebbins Thomas,	39	41 South "
Taylor James H.	25	146 Purchase "
Taylor Fernando C.	22	14 Battery-march street.
Whitmarsh John,	24	Rear 96 Purchase "

36 Members.

Condition of House and Apparatus.

Engine built in 1337, by S. Thayer, of Boston; its condition is good; Diameter of Cylinders, $6\frac{5}{8}$ inches; Stroke of Piston, 12 inches; 28 feet good Suction Hose. There are 600 feet of Leading Hose, 100 feet of which are indifferent. One Hose Carriage, 8 Buckets and 2 Axes. The condition of House is good.

TREMONT ENGINE COMPANY, No 8.

House in Tremont Street.

Members.	Ages.	Residence.
Welch James M. *Foreman,*	32	17 London street.
Wise William M. *As. For.*	33	54 Orange "
Carver Charles, *Clerk,*	39	88 Warren "
Allen Bennett,	24	26 Marion "
Bullock William W.	27	54 " "
Bullock Alfred W.	25	40 Orange "
Bicknell Brownell M.	34	56 Marion "
Bowman Isaiah,	32	604 Washington street.
Cole Lucius,	24	10 Suffolk "
Carver Thomas,	30	88 Warren "
Clark John W.	24	8 Wheeler's court.
Dow David M. R.	25	40 Orange street.
Dwyer Thomas,	22	3 Madison place.
Denning Stillman,	25	12 Wheeler's court.
Earl William M.	24	5 Hudson street.
Grennell John S.	22	32 Pleasant "
Hubbard John C.	42	4 Warren "
Heilge Henry E.	29	42 " "
Hersey Levi,	22	2 Spear place.
Hayes Isaac,	22	56 Marion street.
Hinds William A.	26	98 Pleasant "
Lowger Robert,	23	655 Washington street.
Lowell George W.	38	6 Suffolk "
Myers Joseph P.	23	40 Orange "
Perry Samuel N.	23	Harrison Avenue.
Pullen George,	21	22 Lincoln street.
Ready Jeremiah P.	40	2 Knox "
Stillings Benjamin G.	27	6 Middlesex "
Sisson Willard T.	26	48 Oak "
Smith John,	28	54 Marion "
Sanborn Edwin,	23	1 Middlesex "
Sawyer Joseph W.	23	477 Washington street.
Trefethen Leonard,	28	34 Pleasant "
Witherell Eleazer, *St'd,*	40	2 Emery place.
Woodbridge Hartley,	26	448 Washington street.
Welch Isaac N.	34	1 Tyler "
Withington Thomas S.	30	12 Boylston "

37 Members.

Condition of House and Apparatus.

Engine built in 1828, by S. Thayer, of Boston , its condition is good ; Diameter of Cylinders, 6½ inches ; Stroke of Piston, 12½ inches ; 27 feet of good Suction Hose. There are 575 feet of Leading Hose, of which 100 feet are indifferent. One Hose Carriage, 12 Buckets and 2 Axes. The condition of the House good. House damaged by fire May 5th, 1845.

DESPATCH ENGINE COMPANY, No. 9.

House in Mason Street.

Members.	Ages.	Residence.
Hearsey William E. *For.*	27	Essex street.
Patch Franklin, *Ast. For.*	30	2 Morton court.
Frost Seth F. *Clerk,*	26	6 Province street.
Barstow Michael,	21	12 Hudson "
Brann Franklin,	21	1 Avery "
Brigham Calvin O.	22	39 Brattle "
Chamberlin David,	24	60 Essex "
Clements Edwin D.	21	455 Washington street.
Carlton Samuel P.	23	9 Albany "
Culan Richard,	21	41 Oak "
Dow Moses C.	21	26 Hudson "
Davis John W.	24	82 " "
Edwards James,	24	2 Mason street place.
Farrier Stephen,	27	1 Indiana street.
Folger John W.	32	14 Porter "
Furman Thomas S.	24	7 Kneeland "
Farnsworth James,	30	36 Curve "
Gourley James, *Steward,*	28	Essex "
Gray Joel,	28	7 Marion "
Haven Luther,	22	36 Curve "
Howard Nathaniel L.	35	9 Albany "
Knowles Richard,	25	8 Mason "
Kenney George M.	23	34 Sea "
Kincaid Richard L.	23	9 Albany "
Love William B.	22	8 Mason "
Love Thomas A.	24	8 " "

Members.	Ages.	Residence.
Mason Lewis,	25	76 Carver street.
Mayhew Augustus C.	31	89 Charles "
Mozart Frederick W.	22	93 Hudson "
Noble Jonathan G.	25	4 Townsend place.
Nay Lewis G.	21	26 Hudson street.
Pitchard George R.	26	8 Mason "
Rand David H.	24	W. R. R. House.
Spurr John,	36	4 Townsend place.
Sawyer Alvah,	25	52 Essex street.
Trainer William,	24	1 Blanch court.
Towne Jonathan G.	23	4 Townsend place.
Wilson Alexander,	30	Cor. Beach & Utica sts.
Warner Jesse R.	28	7 Eliot street.
Waters Arthur,	21	South street place.

40 Members.

Condition of House and Apparatus.

Engine built in 1794, by S. Thayer, of Boston; its condition is good; Diameter of Cylinders, 6½ inches; Stroke of Piston, 10 inches; 27 feet good Suction Hose. There are 525 feet of Leading Hose, of which 100 feet are indifferent. One Hose Carriage, 2 Axes and 8 Buckets. The condition of the House good.

HANCOCK ENGINE COMPANY, No. 10.

House in Friend Street.

Members.	Ages.	Residence.
Quinn James, *Foreman,*	35	13 North Margin street.
Dole William H., *As. For.*	33	1 Nashua "
Sprague Thomas, *Clerk,*	32	27 Pitts "
Arnold John,	45	13 Unity "
Brown Benjamin P.	23	Endicott "
Beal Levi, jr.	39	3 Chambers street court.
Bryant James,	35	72 Lowell street.
Burgess William A.	23	165 Hanover "

Members.	Ages.	Residence.
Blaisdell Benjamin,	21	24 Endicott street.
Burnham Ebenezer,	21	36 Myrtle "
Clark Lyman H.	23	17 Cross "
Cooper William,	22	Lawrence street.
Caswell Richard W.	29	17 Friend "
Dodge John H.	26	11 Lowell "
Davis James,	30	Henchman lane.
Ellis Hezekiah C.	25	Hancock "
Forsyth Rufus,	21	2 Sudbury street.
Goldsmith Thomas,	22	Auburn "
Giles Sias,	21	165 Hanover "
Hill John,	28	20 Thatcher "
Howe Edwin H.	28	72 Lowell "
Horn Luther P.	23	27 Pitts "
Jerauld Washington L.	23	96 Endicott "
Lane Addison,	24	25 Salem "
Merrick Joshua B.	29	Webster place.
Newcomb Thomas C.	21	4 Unity street.
McConnell William,	22	165 Hanover street.
Philbrick Charles G.	25	25 Poplar "
Quinn Nicholas,	37	Harmony court.
Shaw John,	30	14 North Margin street.
Webster Moses F. *St'd*,	30	35 Pitts "
Webster Charles,	39	Endicott "
Wiggin Jonathan P.	26	9 South Margin "
Walker Simeon,	30	3 Harrison place.
Weeks George W.	23	Prince street.
Yeaton Samuel,	23	7 Minot "

36 Members.

Condition of House and Apparatus.

Engine built in 1837, by S. Thayer, of Boston; its condition is good; Diameter of Cylinders, 6½ inches; Stroke of Piston, 10 inches; 26 feet of good Suction Hose. There are 596 feet of Leading Hose. One Hose Carriage, 12 Buckets, and 2 Axes. The condition of the House poor.

MAVERICK ENGINE COMPANY, No. 11.

House in Paris Street, East Boston.

Members.	Ages.	Residence.
Pierce John, *Foreman*,	52	Sumner street.
Foss Abraham L. *As. For.*	34	Webster "
Pierce Gilbert E. *Clerk*,	25	Sumner "
Bailey Edwin,	31	Paris "
Blake Robert H.	32	Webster "
Brown Thomas,	34	Sumner "
Barker Jacob,	28	" "
Bradford Stephen,	29	Cor. Maverick and Paris sts.
Flower Truman,	53	Webster street.
Goodwin Levi,	42	Paris "
Hunt David W.	36	Sumner "
Hamilton Alvan,	34	Cottage "
Hunt William,	32	Maverick "
Irvin Samuel,	38	Webster "
Kenson Eliphalet,	33	Havre "
Kingman James H.	23	Wesley "
Keen William T.	24	Liverpool "
Morgan Enos,	36	Cottage "
Morrill George W.	27	Everett "
Morse Harvey M.	27	Border "
Ormsby James,	22	Sumner "
Pray William,	25	Meridian "
Plummer George H.	28	Havre "
Pickett William B.	27	Maverick "
Robbins Joseph,	36	" "
Rollins Theodore F.	33	" "
Tower Jonathan,	46	Marginal "
Woodbury Benjamin F.	34	Wesley "
Whitehouse Richard,	30	Sumner "
Woods John L.	28	Border "

30 Members.

Condition of House and Apparatus.

Engine built in , by W. C. Hunneman, of Roxbury; its condition is good; Diameter of Cylinders, 5½ inches; Stroke of Piston, 15 inches; 26 feet of good Suction Hose. There are 550 feet of Leading Hose in good order. Two Hose Carriages, and 8 Buckets. The condition of the House good.

EAGLE ENGINE COMPANY, No. 12.

House in Washington Street.

Members.	Ages.	Residence.
Smith Elisha, *Foreman,*	29	9 London street.
Hawes E. W. W. *As. For.*	27	11 Canton “
Smith Zenas E. *Clerk,*	24	9 London “
Ayer John B.	23	Oliver “
Bugbee William F.	23	601 Washington street.
Babb Nathaniel P.	28	10 Suffolk “
Butler Joseph C.	24	Harrison avenue.
Bean Archibald,	21	Washington street.
Copeland William,	24	2 Blake's court.
Evans James O.	22	60 Emerald street.
Eastman Allen F.	23	2 Groton “
Gale Henry,	21	Porter “
Hall Francis, jr. *Steward,*	25	83 Tyler “
Hall William,	28	Ohio place.
Hodsdon Mark E.	24	Harrison avenue.
Hodgdon Henry A.	26	Washington street.
Hodgdon Ambrose P.	22	“ “
Hartwell Henry B.	26	Norwich “
Jenks Isaac C.	22	174 Tyler “
Kingsley Hezekiah,	23	445 Washington “
Kingsley Gardner P.	22	445 “ “
Linden Henry,	24	“ “
Leavitt Abiathar W.	22	49 Marion “
Marston Otis N.	26	Malden court.
Mugford John,	41	Orange lane.
Mushaway Peter L.	22	Church street.
Muralious John,	22	Tyler street.
Morrison James D.	24	31 Orange “
Oglesby James,	26	8 Castle “
Parshley George W.	22	31 Orange “
Smith Isaac,	24	Suffolk “
Snell Lorenzo D.	23	Curve “
Stone Josiah,	23	Tyler “
White John S.	28	Suffolk “
Wood Samuel,	26	Lucas place.

35 Members.

Condition of House and Apparatus.

Engine built in 1831, by W. C. Hunneman, of Roxbury; its condition is poor; Diameter of Cylinders, $5\frac{7}{8}$ inches; Stroke of Piston, $14\frac{1}{2}$ inches; 27 feet of good Suction Hose. There are 550 feet of Leading Hose, all of which is in good order. One Hose Carriage, 8 Buckets and 2 Axes. The condition of the House is good.

MELVILL ENGINE COMPANY, No. 13.

House in Leverett Street.

Members.	Ages.	Residence.
Holland James F. *For.*	33	47 Merrimac street.
Carter Charles, *As. For.*	27	39 Prince “
Jepson William, *Clerk,*	39	70 Poplar “
Abbott John H.	21	9 Brattle “
Bass William,	26	Leverett “
Burnham Arthur, jr.	22	119 Chambers “
Bartlett Obed W.	26	35 Lowell “
Brown Eleazer G.	23	54 Union “
Chase William D.	29	20 Lowell “
Clark William,	21	33 S. Russell “
Dorr Moses,	22	4 Livingston “
Dunn Ellery D.	23	20 Lowell “
Dunn John G.	23	48 Billerica “
Edwards Alexander,	24	Leverett “
Edgeworth Michael,	32	Nashua “
Hanscom Samuel, *St'd,*	30	17 North Russell street.
Hall John, jr.	30	20 “ “
Hobbs Jeremiah S.	25	Gouch “
Hatch James H. L.	22	14 Leverett “
Litchfield Ira,	36	South Russell “
Lord Humphrey,	30	
Libby Charles,	22	20 Brighton “
Morse John B.	24	48 Billerica “
Morris Isaac,	23	110 Cambridge “
Moore Jacob F.	31	17 Billerica “
Merrifield Levi,	30	Lowell “
Norton William D.	22	20 Prospect “

Members.	Ages.	Residence.
Palmer William H.	23	South Russell street.
Perry Charles A.	22	Gouch "
Piper Albert N.	21	20 Lowell "
Rice Emery,	23	30 Portland "
Reeves Robert H.	34	Blossom court.
Reed Samuel B.	23	Cor. Belknap & Pinckney st.
Souther James,	23	Cor. Camb. and Blossom sts.
Sivadie George D.	24	3 Milton street.
Warren Charles W.	31	90 Chambers street.
Winch Weston,	27	116 Hanover "
Wardwell David K.	22	10 " "

39 Members.

Condition of House and Apparatus.

Engine built in 1832, by W. C. Hunneman of Roxbury; its condition good; Diameter of Cylinders, 6 inches; Stroke of Piston, 15½ inches; 24 feet of good Suction Hose. There are 550 feet of Leading Hose, all of which is in good condition. One Hose Carriage, 4 Buckets and 2 Axes. The condition of the House is good. House and Apparatus burnt, April 14, 1845.

ELIOT ENGINE COMPANY, No. 15.

House in Commercial Street.

Members.	Ages.	Residence.
Munroe Jotham B. *For.*	34	4 Clark street.
Taylor Robert, *As. For.*	26	19 Charter "
Simonds William H. *Cl'k,*	27	Rear 8 Pitts street.
Baldwin Nahum,	22	10 Unity "
Bell Edward,	33	48 Salem "
Baston Daniel,	29	99 Endicott "
Bates John. jr.	34	40 North Margin street.
Currant Anthony, jr.	30	53 Prince "
Coleman Joseph,	29	18 Charter "
Chadbourn John,	37	132 Hanover "

Members.	Ages.	Residence.
Emerson Otis,	33	3 Margaret street.
Fowle Isaac H.	26	246 Hanover “
Green Caleb,	42	3 Bennett “
Gowan Benjamin,	37	2 Bartlett “
Grace James G.	30	213 Hanover “
Hodges John R.	37	1 Hanover avenue.
Hodgkins Joshua	28	38 Union street.
Hayes John P.	28	49 Charter “
Jennings Frederick A.	28	79 Prince “
Joy William,	29	North Margin street.
Kemp Robert,	26	Hull street court.
Lillie Daniel W.	41	Rear 184 Hanover street.
Malander Charles,	25	63 Endicott “
Mills James L.	22	Jenkins place.
Moses Joseph T.	26	Commercial street.
Payson James H.	29	27 North Margin “
Ripley Joseph,	43	Ripley place.
Rymell William H.	25	45 Charter street.
Ricker Ezekiel,	26	Bennett place.
Rand Abraham W.	22	Merrimac House.
Smith Archibald, *Steward*,	43	7 Hanover avenue.
Spaulding William M.	24	338 Commercial street.
Seaver Russell,	23	190 Hanover “
Varney Henry W.	32	190 “ “
Waterman Thomas,	36	4 Battery “
Woodward Warren,	27	Rear 8 Pitts “
Whidden Andrew G.	23	12 Commercial “
Wright Lorenzo D.	34	63 Endicott “
Wilbur Albert,	26	116 Commercial “
Ware George,	28	219 Hanover “

40 Members.

Condition of House and Apparatus.

Engine built in 1823, by W. C. Hunneman, of Roxbury; its condition is bad; Diameter of Cylinders, 5½ inches; Stroke of Piston, 16 inches; 28 feet of Suction Hose, in poor order. There are 600 feet of Leading Hose, 150 of which are indifferent. One Hose Carriage, 8 Buckets and 2 Axes. The condition of the House is bad.

MAZEPPA ENGINE COMPANY, No. 17.

House in Broadway, South Boston.

NO RETURN RECEIVED.

LAFAYETTE ENGINE COMPANY, No. 18.

House on Pemberton Hill.

Members.	Ages.	Residence.
Morrill Benjamin J. *For.*	29	May street.
Palmer John P. *As. For.*	29	School "
Colburn Frederick A. *Cl'k,*	35	Franklin street.
Bussell Jesse P.	26	125 Hanover "
Brown Ward B.	23	9 West Centre street.
Bowker Freeman,	33	Grove "
Brown Samuel J.	27	Cor. Zone and Grove street.
Bense Frederick,	27	26 Exchange street.
Chandler Francis,	31	Myrtle "
Cushing George K.	38	11 Minot "
Clark John S.	24	120 Charles "
Dearborn Edmund B.	38	477 Washington "
Elkins Josiah R.	28	City Hotel.
Foley Peter E.	23	123 Cambridge street.
Gerrish Timothy,	27	Myrtle court.
Glover Thomas A.	23	Oxford place.
Gross Joseph,	29	25 Prince street.
Henry James, *Steward,*	53	110 Court "
Henry Charles C.	25	110 " "
Houseman George,	25	Hanover place.
Hawkes Ezra, jr.	29	8 Bridge street.
Hamilton John,	25	92 Mt. Vernon street.
Karcher Christian,	27	3 Mechanic "
Kaulback William H. jr.	26	North Margin "
King John S.	37	Harvard place.
Kilburn George H.	35	15 Grove street.
Leavitt David	27	18 Devonshire street.

Members.	Ages.	Residence.
Lufkin Charles M.	21	Cor. Court st. and Cornhill.
Metcalf Leonard,	25	110 Court street.
Morse Charles E.	31	2 Lynde street place.
Mills James H.	24	10 Hanover street.
Ruggles Levi, jr.	22	1 West Centre street.
Taylor James,	29	1 Morton court.
Woodward William,	21	188 Hanover street.
Wadleigh Hiram G.	37	16 Portland "

35 Members.

Condition of House and Apparatus.

Engine built in 1836, by W. C. Hunneman, of Roxbury; its condition good; Diameter of Cylinders, 5½ inches; Stroke of Piston, 15 inches; 26 feet of good Suction Hose. There are 600 feet of Leading Hose, 100 feet of which are indifferent. One Hose Carriage, 8 Buckets and 2 Axes. The condition of the House is poor.

EXTINGUISHER ENGINE COMPANY, No. 20.

House in East Street.

Members.	Ages.	Residence.
Pray Amasa, *Foreman,*	28	58 South street.
Rathbun John A. *As. For.*	28	11 East "
Pierce Jonathan, *Clerk,*	39	27 Tyler "
Allen William H.	23	Hudson "
Blake William H.	22	Kneeland street.
Blake Charles A.	28	" "
Cossett George,	22	49 South "
Duncan Humphrey,	24	24 Federal "
Day Jeremiah D.	22	60 South "
Griner David,	25	5 Oliver place.
Godfrey James,	21	5 " "
Grant Theodore,	34	Beach street.
Hill Lebbeus,	21	60 South "
Hale Lorenzo,	26	1 East "

Members.	Ages.	Residence.
Leeds Warren N.	25	117 Essex street.
Locke Simeon,	37	Albany "
McIntire Charles,	21	Kingston street.
Pray William,	25	60 South "
Pineo Henry,	34	" "
Pelton Charles B.	23	Cove place.
Pettee William,	23	East street place.
Porter Henry,	24	Sea "
Richardson George W.	37	49 South street.
Ross Charles,	31	Kneeland street.
Rumery William M.	22	Sea "
Serratt William F.	33	East street place.
Starkweather Charles B.	32	East "
Tuckerman Geo. W. *St'd*,	32	138 Sea "
Underwood Joel P.	31	Essex "
Winn David,	36	East street place.

30 Members.

Condition of the House and Apparatus.

Engine built in 1837, by S. Thayer, of Boston ; its condition is good ; Diameter of Cylinders, 6½ inches ; Stroke of Piston, 12 inches ; 26 feet of good Suction Hose ; 600 feet of Leading Hose, of which 200 feet are indifferent. One Hose Carriage, 8 Buckets and 2 Axes. The condition of the House good.

WARREN HOOK AND LADDER COMPANY, No. 1.

House in Friend Street.

Members.	Ages.	Residence.
Smith Dennis, *Foreman*,	33	51 Lowell street.
Wilder Gilbert G. *As. For.*	34	40 Temple "
Fox Philip, *Clerk*,	25	17 Cross "
Brown William H.	26	2 Noyes place,
Bartlett Thomas H.	30	Sudbury street.
Burley Jonathan M.	21	7 Cross "
Bragg Charles C.	27	17 " "

Members.	Ages.	Residence.
Calder William,	36	13 May street.
Heuston Thomas,	26	5 Spring street place.
Hill James W. J.	35	2 Seaver place.
Howard James H.	27	81 Essex street.
Lampe Charles A.	23	2 Ivers "
Lane Horace C.	23	29 Fayette "
Lyman John,	22	2 Chapel place.
Mann Barnabas,	21	Salem street.
Morton John,	27	Merrimac street.
Putnam Ephraim,	22	10 Salutation "
Proctor Alfred N.	22	202 Hanover "
Ridlon Noah,	36	Beverly "
Sellew Amos,	30	148 Hanover "
Smith Phillip,	23	2 Chapel place.
Tripp Timothy K.	27	17 Cross street.
Wyatt Joseph G. *Steward*,	31	12 Morton "
Wingate Moses,	25	51 Lowell "

24 Members.

Condition of House and Apparatus.

The condition of the Carriage is good ; carrying 16 Ladders of various lengths ; 3 Hooks, 4 Crotch Poles, 6 Axes, 4 Hatchets, 2 Hammers, 4 Torches, and Guy Ropes. The condition of the House is good. Not in use, but in good order, 10 Ladders of various lengths ; 2 large Hooks, 4 Crotch Poles, 1 Guy Rope, 2 Axes, and 8 Fire Buckets.

CITY HOSE COMPANY, No. 1.

House in Engine House No 18.

Members.	Ages.	Residence.
Martin Richard S. *For.*	36	118 Charles street.
Wright James L. *As. For.*	31	Federal "
Blake William, *Clerk*,	34	51 Friend "
Clough Joseph E.	30	3 Hanover "
Chase Thomas,	23	31 Oliver "
Fisher Horace,	31	Holman's buildings.

Members.	Ages.	Residence.
Freeland Joseph,	25	2 North Bennett street.
Hayes William,	28	Commercial "
Lenfest Solomon,	22	Wall "
Lenfest Thomas H.	21	65 Brighton "
Meloon David,	26	65 South "
McDonald Joseph H.	26	2 Distill-house square.
Nutting Samuel S.	23	3 Hanover street.
Noyes William,	22	11 Washington square.
Picthall Henry J.	26	Thacher street.
Pratt Nathaniel W.	23	Sudbury "
Sylvester Bela P.	24	3 Hanover "
Russell James W.	28	196 Tremont "

18 Members.

Condition of House and Apparatus.

The condition of the House is good. Number of Hose Carriages, 3; Condition of Carriages, good. There are attached to this Company 2300 feet of Leading Hose, 200 feet of which is indifferent.

Besides the above, each Company is furnished with Caps, Badges, Belts, Spanners, Torches, Signal Lanterns, Life Lines, Hose Lines, Trumpets, Crowbars, Shovels, and all necessary apparatus for their respective duties.

Hooks and Ladders at various places.

Where Deposited.	Ladders.	Hooks.	Condition.
Engine House, No. 15,	1	1	Good.
Engine House, East Boston,	8	3	Good.
Engine House, No. 17, South Boston,	3	2	Good.
Engine House, No. 6,		2	Good.
Long ones, Arch, Central wharf,	3		Good.
Rev. Mr. Parkman's Meeting House,	1		Good.
Brattle street Church,	1		Good.
	17	8	

Engines and Apparatus not in use.

Name of Engine.	Condition.	Feet of Suction Hose.	Condition
Relief, No. 1,	Good.	27	Good.
Relief, No. 20,	Good.	27	Good.
Relief, No. 15,	Good.	27	Good.
		81	

One Hook and Ladder Carriage, carrying 11 Ladders, 3 Hooks and the necessary apparatus, all of which is in good condition.

No. 1 is in charge of a company on the Neck, organized for the protection of that part of the City, and No. 2, at South Boston, is in charge of a company organized for the protection of that part of the City only, who have directions not to cross the bridge unless sent for by an Engineer. The old Washington is in charge of a volunteer company at East Boston. No. 4 has been sent to East Boston in place of No. 11, and No. 11 given to Engine Company No. 20, and No. 20 is used for a relief engine. No. 14 has been sent to the Volunteer Company on Suffolk street, and No. 1 is used for a relief engine.

LOCATION OF RESERVOIRS, WELLS, &c.

Where Water can be obtained in case of Fire, within the City of Boston. September, 1845.

1 Corner of Hanover and Clark streets—Lid on side-walk of Hanover street.
2 North square—Lid in centre.
3 Hancock School House—Lid on side-walk.
4 Christ Church, in Salem street—Lid on side-walk.
5 Hanover street, between Portland and Friend streets—Lid in the street.
6 South Market street—Lid in the centre.

7 Clinton street, opposite Fulton street—Lid in the street—filled by the tide.
8 Sudbury square—Lid in the centre.
9 Bowdoin square—Lid in the centre—fed only by a spring.
10 Tremont street—Lid on Pemberton's Hill.
11 Corner of Cambridge and Butolph street—Lid in Butolph street.
12 Corner Chambers and Poplar streets—Lid in the square.
13 Corner Pinckney and West Centre streets—Lid in the street opposite High school.
14 Mt. Vernon street, back State House—Lid in the street.
15 State street, front City Hall—Lid in the street.
16 Front Old South Church—Lid on the side-walk.
17 Franklin place, front School House—Lid on the side-walk, fed only by a spring.
18 Opposite the South Church, Summer street.
19 Batterymarch street, near Broad street—Lid in the street.
20 Washington place, Fort Hill—Lid near the head of Gibbs lane.
21 Liberty square—Lid near the corner of Kilby street.
22 Washington street, corner Avon street—Lid in the street.
23 Corner Park and Tremont streets—Lid in the street.
24 Corner Washington and Essex streets—Lid on the side-walk in Essex street.
25 Washington street, opposite end of Common street—Lid on the side-walk.
26 Washington street, corner Castle street—Lid in the street.
27 Washington street, near J. D. Williams'—Lid in the street.
28 Warren street, corner Eliot street—Lid in the street.
29 Corner Carver and Pleasant streets—Lid in the street.
30 Washington street, opposite Franklin School House—Lid on the side-walk.
31 Sea street, opposite Piper's wharf—Lid in the street.
32 South Boston, corner Broadway and A streets—Lid opposite the Church.

33 Blossom street, corner McLean street—Lid in the street.
34 Thacher street—Lid in the square.
35 Broad street, near State street—filled by the tide.
36 Atkinson street, near High street—Lid on the south side.
37 Mt. Vernon street, near Louisburg square—Lid in the street.
38 Blackstone street, range of Canal—Lid in the centre, near the Hay Scales—filled by the tide.
39 Tremont street, corner of passage-way to Mason street—Lid in the street.
40 Corner Suffolk and Canton streets—Lid by the pump—filled from the pump.
41 Opposite Hawes School House, South Boston.
42 Corner Myrtle and Butolph streets—Lid in Butolph st.
43 Union street, opposite No. 3.
44 Corner Walnut and Chestnut streets—Lid in Walnut st.
45 Opposite Bulfinch street, in Bowdoin square—Lid in Bowdoin square.
46 Leverett street, opposite Spring street.
47 Corner Hancock and Cambridge streets—Lid in Hancock street.
48 Corner Somerset street and Somerset place—Lid in Somerset street.
49 East Boston, South East from Maverick House.
50 Pearl street, opposite to Sturgis place—Lid middle of the street.
51 Broadway, South Boston, opposite Baptist Church.
52 Lancaster, corner Merrimac street.
53 Cooper, corner of Salem street.
54 South Boston, corner B and 4th streets.
55 Beach, corner of Hudson street.
56 Harrison avenue, opposite Kneeland street.
57 Harrison avenue, opposite Bennett street.
58 Franklin place, near Hawley street.
59 Edinburgh, near Essex street.
60 Hollis street, near Tremont.
61 Dedham street, opposite Mr. Fitzpatrick's store.

62 Canton street, opposite J. M. Albert's bake-house.
63 Kneeland, corner of Hudson street.
64 Suffolk, opposite Cherry street.
65 South Boston, D street, near Broadway.
66 East Boston, Cottage street, near Sumner.
67 South Boston, Fourth street, opposite Unitarian Church.

The following Reservoirs have been constructed during the present season, and are capable of containing from 150 to 300 hogsheads; those of 150 hogsheads measurement are connected with the aqueduct.

68 Washington street, opposite the Gas House.
69 Washington, corner of Brookline street.
70 Washington, corner of Florence street.
71 Washington, corner of Kneeland street.
72 Dover, opposite Emerald street.
73 Pleasant, opposite Eliot street.
74 Church street, in front of Church.
75 Tremont, corner of Boylston street.
76 South Boston, corner of Fourth and Turnpike streets.
77 South Boston, corner Fourth and E streets.
78 South Boston, corner Fourth and Dorchester streets.
79 Court square, South East corner Court House.
80 Washington, corner of Franklin street.
81 Charlestown, at the junction of Beverly street.
82 Causeway, opposite Merrimac street.
83 Green, opposite Leverett street.
84 At the junction of Hanover, Salem and Endicott streets.
85 East Boston, Liverpool, corner Maverick street.
86 East Boston, Lexington street, opposite Lexington place.
87 East Boston, Webster street, nearly opposite Mr. Lamson's house.
88 Federal, corner Channing street.
89 Southac, corner West Cedar street.

90 Chestnut, opposite West Cedar street.
91 Beach street, near United States Hotel.
92 Tyler, corner of Oak street.
93 Harrison Avenue, near Curve street.
94 Brattle street, corner Brattle square.
95 State street, corner Kilby street.
96 Harrison Avenue, corner of Asylum street.
97 Hudson, corner of Curve street.
98 Tremont, corner of School street.
99 Auburn, corner Livingston street.
100 Charlestown street, corner of Medford.

FIRE PLUGS IN THE AQUEDUCT.

1 Washington street, opposite Avery street, Lid in the street.
2 “ “ “ Harvard street.
3 “ “ “ Kneeland street.
4 “ “ “ Lucas place.
5 “ “ “ La Grange place.
6 “ “ “ Pleasant street.
7 “ “ “ Essex place.
8 “ “ “ Garland place.
9 “ “ “ No. 715.
10 “ “ “ No. 729 Red store, near Gas House.
11 Washington street, opposite first tree above Malden street.
12 “ “ “ Canton street, east side.
13 “ “ “ Burial Ground.
14 “ “ “ Concord street.
15 “ “ “ Springfield street, N. E. corner, east side.
16 Washington street, opposite Northampton street, near curb stone, south side.
17 Pleasant street, opposite Wheeler's court.
18 “ “ corner Tremont street.
19 “ “ opposite South Cedar street.

20 Pleasant street, opposite Pleasant street court.
21 “ “ “ Providence Depot.
22 Corner Pleasant and Boylston streets—Lid in the square.
23 West street, near Washington street, north side.
24 Bedford street, opposite the Lot occupied by Sears, carpenter.
25 Bedford street, opposite Columbia street, near east corner.
26 Harrison Avenue, opposite Weld’s house.
27 “ “ corner Harvard street.
28 “ “ “ Nassau street.
29 Atkinson street, on the side-walk, opposite No. 9.

FIRES, ALARMS, &c.

From Sept. 1, 1844 to Sept. 1, 1845.

Date.	Owner or Occupant.	Situation.	Loss.	Insurance.	Causes, &c.
1844.					
Sept. 1	Thomas Cordis,	3d st. South Boston,	$1,200	$1200	Set on fire in three different places.
	Elisha Sherman,	" "	500	none	
6	Elisha J. Sherman,	" "	750	500	
		Henchman lane,	trifling		Defect in chimney.
9	M. Brimmer,	Washington street,	600	600	Spark from lamp falling on paper in bindery.
	Benjamin Bradley,	" "	10,000	8,000	
	Isaac B. Skinner,	" "	150	150	
	Robert W. Traip,	" "	6,000	6,000	
	Hayden & Hayman,	" "	409	409	
9	Mrs. M. A. Pinkham,	Harrison avenue,	trifling		From register of furnace.
9		Cambridge,			Burning of a tar barrel.
11	John E. Brown,	Water street,	50		Incendiary.
	Merriam & Co.	" "	trifling		
	J. H. Wilkins,	" "	600	600	

Sept. 11	J. M. & L. Hollingsworth,	" "	1,200	1,200	
	William G. Blood,	" "	150		
	William H. Whiteley,	" "	200	200	
	Wilkins and Carter,	" "	1,100	1,100	
	Heirs of Mrs. Marshall,	" "	500	100	
	Daniel Byrne,	" "			
	Adams & Robinson,	" "	100		
	Low & Bramhall,	" "	100		
	O'Connell,	" "	150		
	Tarr & Hall,	" "	200		
	Shute,	" "	150		
	James O'Donnell,	" "	800		
17		Charles street.			Caused by bell ringing at 12 instead of 1 o'clock.
27		Cyprus street,			Trifling damage to roof of dwelling house.
30	R. W. Holman,	Beach "	1,400	1,024	From steam boiler.
	Shiveric & Hall,		800	800	
	Calvin Aiken,		25		
	Neal & Garrett,		100		
	Mrs. M. Blasland,	East street place,	130	130	
			$27,364	$22,013	

Department called out this month— { Alarms in the City, 8 } Total, 9 times.
" out of the City, 1

Date.	Owner or Occupant.	Situation.	Loss.	Insurance.	Causes, &c,
1844.					
Oct. 2	William Brady,	Cross street,			No alarm; from defect in chimney.
5	William Heckle,	Hanover street,			No alarm; bursting of camphene lamp.
7	Irish families,	Pitts "			No alarm; bursting of camphene lamp.
23	David Cummings,	Fulton "	500		Origin unknown.
	Benjamin Smith,	" "	550	550	
24		" "			Rekindling of the above.
28		Charlestown,			False alarm.
29	John Bacon,	Pleasant street,	trifling		Cooking stove placed on the floor.
30		Sudbury "			Burning chimney.
			$1,050	$550	

Department called out this month—{ Alarms in the City, 4 } Total, 5 times.
" out of the City, 1

Nov. 1	S. P. Barnes,	Sea street,	trifling		From stove pipe.
9	James Ryan,	Devonshire street,	trifling		From cigar thrown on mat.
9					Partial false alarm.
10		Tyler "			Air tight stove setting fire to clothing.
12	Edward Brinley,	Market Square,	42,000	40,000	Origin unknown.
	George Brinley,	" "	4,000	4,000	
	Mrs. Sarah Blake,	" "	4,000	2,500	
	Thomas Corbett,	" "	1,500	1,000	
12		" "			From the above.
12					Rekindling of ruins.
13	George W. Wilson,	Crescent court,	3,200	2,350	The flames had made such progress before discovered, that the family barely escaped with their lives, from the upper windows.
13		Market Square,			Rekindling of ruins.
13	William E. Richardson,	Commercial street,	1,250	1,250	Supposed from stove.
14		Endicott "			Burning chimney.
17	White,	Broad "			Burning of a bed.
19	Fifty Associates,	Cornhill,	125	125	Pot of varnish on stove taking fire.
	Charles C. Gregg,	"	200		
20	Cummings & Knights,	Haverhill street,	trifling		Combustion of soft coal in cellar.
20		Roxbury,			Partial burning of a building.

Date.	Owner or occupant.	Situation.	Loss.	Insurance.	Causes, &c.
1844.					
Nov. 25	Irish families,	Eliot street,	trifling		From stove.
25	John Chadbourne,	132 Hanover street,			Rags in closet taking fire; no alarm.
25	Mrs. Sarah Smith,	Mount Vernon "			No alarm; caught from furnace in adjoining building.
28		South Boston,			Burning of fire board.
			$56,275	51,225	

Department called out this month— { Alarms in the City, 15 / " out of the City, 1 } Total 16 times.

Dec. 22		Cambridge,			Alarm caused by a child's clothing taking fire.
26	Enoch Train,	Cambridge,			Burning of a stable and shed.
28	Peter Donelly,	Richmond street,			Burning of straw, set on fire in the cellar.

Department called out this month— { Alarms in the City, 1 / " out of the City, 2 } Total 3 times.

1845.					
Jan. 4	John M. Robbins,	Sudbury street,	$1,000	$540	Cigar thrown on mat.
4	Fitzhenry Homer,	Beacon "	5,000	none	Workmen leaving a small furnace on the roof while at dinner.
5	Edward Dolan,	Sun Court street,	100		Sparks falling among shavings.
6		Cambridge,			Burning of a building.
7	Charles Moore,	Livingston street,			Slacking of lime.
7					False alarm.
7	Levi T. Woodman,	Utica place,	75	75	Incendiary.
8	Caleb Whiting,	Second street,	100		Incendiary.
	Benjamin Dutton,	" "	400		
9	Bosworth & Pratt,	Poplar street,	56	56	Incendiary.
11	George Hallett,	Arch wharf,	1,500		Incendiary.
11	Atkins & Freeman,		400	400	Rekindling of the above.
11	Benjamin F. Newell,	Lewis st. E. Boston,	trifling		Stove setting fire to floor.
14	A. C. Lombard & Co.	" "	3,500	3,000	Supposed from stove.
	Benjamin F. Newell,	" "	200		
	John Marshall,	" "	900	500	
	Baptist Society,	" "	700		
	Warren Jenness,	" "	400		
14	Jeremiah Kitteredge,	South Boston,	1,500		From leakage in still.
15		"			From the above.

Date.		Owner or Occupant.	Situation.	Loss.	Insurance.	Causes, &c.
1845.						
Jan.	16	Levi T. Woodman,	Utica place,	75	75	Incendiary.
	17	Schooner Cornelia,	Central wharf,	10,000	10,000	Stove left in forecastle.
	18		Cambridge,			Burning of a barn.
	18	Benjamin Parker,	Bedford street,	trifling		Kindling stuff left near stove.
	23	T. Fitzpatrick,	Richmond street,	trifling		Incendiary.
	24		South Boston,			Lecture bell.
	25	Anthony Cline,	35 Pitts street,			Bed set on fire by a child.
	27	A. L. Adams & Co.	Cambridge street,	trifling		Match dropped near cotton.
	29					False alarm.
	29	Guild & Herrington,	Roxbury,			Wood left on boiler.
	30		Roxbury,			From the above.
	30		Roxbury,			Rekindling of ruins.
				$25,906	$14,646	

Department called out this month—{ Alarms in the City, 22 } Total, 27 times.
{ " out of the City, 5 }

Date.		Owner or Occupant.	Situation.	Loss.	Insurance.	Causes, &c.
Feb.	1	City of Boston,	West Centre street,	$1,000		From furnace.
	1	Levi T. Woodman,	Utica place,	75	$75	Incendiary.
	3	Ellis & Mayo,	Dover street,	trifling		Incendiary.
	4	H. Evans,	Cottage place.			Supposed from hot ashes.

Feb.	4	James Barry,				
	4		Charlestown,			Burning of a building.
	4	P. Lynam,	Dedham street,			Burning chimney.
	9	City Bank,	State "	500	500	Defect in flue.
		Jonathan Chapman,		50		
	11	Bosworth & Pratt,	Poplar "	2,000	2,000	Incendiary.
	16					False alarm.
	16					Continuation of the above alarm.
	16	G. S. Seaverns,	Boylston street,	109	109	From furnace.
	17	Gove & Locke,	Richmond "			Smoke from stove filling the store.
	17					Continuation of the above.
	17	Micah Safford,	North Russell street,			Burning chimney.
	17	Micah Safford,	" "			Trifling damage to roof, took from chimney.
	18	William Brown,	Washington street,	trifling		Boiling over of syrup.
	19	Levi T. Woodman,	Utica place,			Incendiary.
	21	Ariel K. Fletcher,	Friend street,	1,300	900	Supposed from hot ashes.
		Caleb S. Johnson,	Merrimac street,	439	439	The alarm originated in Roxbury, and while the engines were out this fire was discovered, and also the building known as Washingtonian Hall.
		James Stevens,	" "	594	94	
		Bruce & Martin,	Court street,	200		
		Rev. J. Bellows,	"	222	222	
		James Fisher,	"	50	50	

Date.	Owner or Occupant.	Situation.	Loss.	Insurance.	Causes, &c.
1845.					
Feb. 21	Rich,	Howard street,	trifling		Small stable set on fire.
21	Proprietors of Church,	Chardon "	400	400	Incendiary.
22		Kneeland "			Burning chimney.
23	Samuel Thaxter & Sons,	Cor. Broad and State streets.	150	150	Ignition of phosphorus.
	Jonathan Phillips,		68	68	
24		Cambridge,			Partial burning of dwelling.
25	Levi T. Woodman,	Utica place,			Set on fire for the fifth time, since January 1, 1845.
27	James Cofran,	Canal street,	trifling		Incendiary.
27	Hayes & Davis,	Haverhill street,			Incendiary. No alarm.
27	Alfred Perkins,	" "			Incendiary. No alarm.
			$7,157	$5,007	

Department called out this month— { Alarms in the City, 22 / " out of the City, 2 } Total, 24 times.

March 4		Portland street,			Pan of coal tar taking fire on stove.
9	George Roberts,	State street,	150	150	Matches taking fire in drawer.
9		Charlestown,			Lecture bell.
10		Union Wharf,			Vessel used as an eating and lodging house; bedding took fire from stove.
12		Cambridge,			Burning of a tar barrel.
21	Drew,	Boylston street,	800	800	Incendiary.
22		Roxbury,			Burning of soap works.
24	Conservatory,	848 Washington st.	trifling		From furnace.
25		South Boston,			Trifling damage to roof of a building.
25		Charlestown,			Partial burning of building.
28		Cambridge,			Unknown.
29	T. Simmons,	Roxbury,			Burning of turpentine works.
31	S. M. Hurlburt,	Franklin Avenue,	trifling		From stove.
			$950	$950	

Department called out this month— { Alarms in the City 7 } Total 13 times.
{ " out of the City, 6 }

Date.	Owner or occupant.	Situation.	Loss.	Insurance.	Causes, &c.
1844.					
April 4	Colored persons,	Charlestown street,			Trifling damage to building known as "New Guinea," from defect in chimney.
4	Samuel Aspinwall,	Chelsea Ferry,	500		Sparks from steam-boat.
	E. Buck, Jr.		200		
5	James F. Fullam,	Bowdoin Square,	trifling		Incendiary.
6	Henry Codman,	295½ Washington st.	300	300	From flue of furnace.
	Gridley & Webber,	"		300	
10	Francis Cox,	65 Commercial st.	4,000	4,000	Incendiary.
	Benjamin Humphrey,	"	500	500	
	A. G. Brown,	"	100		
	William O. Haskell,	"	750	750	
11	James Baldwin,	Woburn,			Burning of a barn.
11	Samuel Aspinwall,	Commercial street,			Shed set on fire by sparks from steam-boat; no alarm.
11	William H. Hoogs,	Tyler street,			Carpenter's shop set on fire; no alarm.
12		Lowell street,			Burning chimney.
13	Ebenezer Smith,	Haymarket square,			From friction matches.
14	Manning & Glover,	Market square,			Sparks lodging in gutter.

April 14.	City of Boston,	Leverett street,	1,200		Engine House No. 13 set on fire ; the engine was saved in a damaged state, but the House was entirely destroyed.
15		Weston,			Burning of Hotel and outbuildings.
23	Irish Families,	Robinson's Lane,			Defect in hearth.
23	John Webber & Sons,	Roxbury,			Burning of ropewalks and several dwellings.
24		Canal street,			Burning of transparency on circus.
25	George Adams,	Liberty square,			Combustion of lamp black.
25		Roxbury,			Burning of roof of a building.
28					False alarm.
28	Davis,	Friend street,			An attempt made to fire the privy, by placing clothing in a barrel and setting them on fire ; no alarm.
29	J. Lewis,	Sudbury street,	trifling		Incendiary.
29		Cambridge,			Burning Mears' soap works.
29	Henry B. Smith,	State street,	800	800	Incendiary.

Date.	Owner or occupant	Situation.	Loss.	Insurance.	Causes, &c.
1844. April 30		Roxbury,			Burning of dwelling and two barns.
			$8,650	6,650	

Department called out this month—{ Alarms in the City, 16 / " out of the City, 6 } Total 22 times.

May 2		Charles street,			Burning of a tar berrel.
3	Colored persons,	Rear Belknap street,			Person smoking pipe in bed.
3	Walter Frost,	Boylston street,	348	348	Incendiary.
	O. & H. Safford,	" "	500	500	
	Thomas A. Williams,	" "	400	300	
	Carriages owned by sundry persons,	" "			
		Camden street,	2,000		
4	Mrs. Gamage,		150		Timber built into chimney.
5	Stephen Thayer,	Pine "			Incendiary.
5	City of Boston,	Tremont "	500		Engine House No. 8, set on fire.
5	Seth Robinson,	Harvard place,			Incendiary.

May	5					False alarm.
	5		Beach street,			Burning chimney.
	5		Charlestown,			Bell ringing for meeting.
	6	Messrs. Lowes,	91 Washington st.	2,000	2,000	Origin unknown.
		James W. Patterson,	" "	4,500	3,500	
		Gillespie & Lothrop,	" "	2,000	2,000	
	9					False alarm.
	10		Canton street,			Burning chimney.
	11	George Nowell,	South Cedar street,	9,750	6,625	Caused by boys building a fire in the rear of Mr. Nowell's carpenters' shop, for the purpose of roasting clams, and in consequence of the high wind at the time, the fire was blown among shavings which were scattered around the shop.
		Joshua Bennett,	" "	750		
		Isaac Adams,	" "	2,000	1,200	
		Thomas Adams,	" "	600	600	
		Mrs. Phebe C. West,	" "	1,400		
		Ephraim Harrington,	" "	3,000	1,500	
		John Morgan,	" "	25		
		Albert Morgan,	" "	25		
		Elisha Atwood,	" "	500		
		Ebenezer L. Holt,	" "			
		Benjamin Shepard,	" "	200		
		Hiram W. Whitney,	" "	300		
		Nathan Goddard,	" "	325		
		Milo Rice,	" "	250		
		Davenport,	" "	300		
		Charles A. Bodge,	" "	100		
		Jacob Thaxter,	" "			

Date.	Owner or Occupant.	Situation.	Loss.	Insurance.	Causes, &c.
1845. May 11	George Sullivan,	South Cedar street,	150		
	Cornelius W. Tuttle,	" "	800	375	
	Asa Stearns,	" "	5,600	4,200	
	Lowell,	" "			
	Fiske,	" "			
	Gould,	" "			
	John McGuire,	" "	100		
	Mrs. Pike,	" "			
	Daniel Hagen,	" "			
	Charles Hutchins,	" "	100		
	Moses Fisher,	" "	100		
	Mrs. Eliza Gardner,	" "	100		
	George R. Varney,	" "	125		
	Samuel Ditson,	" "	400		
	Abijah Fessenden,	" "	300		
	Aaran Brown,	" "			
	John Nance,	" "	100		
	Ephraim Marston,	Piedmont street,	4,200	3,600	
	Alvin M. Hawkes,	" "	150		
	Charles McIntire,	" "			

May 11	Garden Gilson,	"	"	200	
	Horace A. Breed,	"	"	1,570	1,400
	Benjamin Foster,	"	"	100	
	E. Wentworth,	"	"		
	Joseph C. Wheeler,	"	"	150	
	John Timson, jr.	"	"	75	
	George A. Perkins,	"	"		
	James A. Fuller,	"	"		
	Patrick O'Neal,	"	"	100	
	Simeon O. Mason,	"	"	100	
	Lucius Buck,	"	"	25	
	Mrs. Carey,	"	"	100	
	Jacob Ulman,	"	"	2,500	2,000
	Alonzo Pilgrim,	"	"	150	
	Samuel H. Hayward,	"	"		
	Franklin Smith,	"	"	100	
	Samuel Curtis,	"	"	1,200	1,200
	Thomas Martin,	"	"		
	James Aldrich,	"	"	50	
	Ira Andrews,	"	"	50	
	Nahum M. Morrison,	"	"	100	
	Mrs. E. Roddan,	"	"	50	
	Moses Carr,	"	"		
	Charles P. Philbrook,	"	"	200	
	Mrs. Phelps,	"	"	50	

Date.	Owner or Occupant.	Situation.	Loss.	Insurance.	Causes, &c,
1845.					
May 11	Elisha Barnes,	Piedmont street,	125		
	Henry Leavitt,	" "			
	Andrew Loring,	" "	150		
	Mrs. Mary Barnes,	South Cedar street,	150		
	Stephen Caziarc,	" "	200		
	Josiah Bartlett,	" "	138		
	H. M. L. Whitman,	" "	600		
	Mrs. E. Kimball,	" "	150		
	Proprietors M. E. Church,	Church street,	1,000	1,000	
		South Cedar street,			Rekindling of ruins,
11	Holmes & Kelly,	East Boston,	1,000	500	Incendiary.
12	Stetson & Currier,	Rear Pitts street,	200	200	Incendiary.
	Samuel Curtis,	" "	400	400	
	Lott Woodward,	" "	125		
	Mrs. Russell,	" "	125	125	
	John Bacon,	Crescent place,	650	650	
12	Alvah Trull,	Belknap street,	trifling		Incendiary.
	William P. Tolman,	Rear Southac street,	250		Incendiary.
	Joshua Bennett,	" "	400		
	Isaiah Ruby,	" "			

May	12	Heirs of T. L. Winthrop,	Garden street court,	4,273	4,273	
		John L. Leavitt,	" "	75		
		Joseph Viles,	" "	75		
		Rufus K. Ladd,	" "	600	300	
		John Ross,	" "			
	12	Samuel Curtis,	Washington street,			Smoke from flue filling store.
	12	Schr. Seth & William,	Sea street,			From stove in cabin.
	12	William Tudor,	Cambridge,			Burning of an ice house.
	12		Devonshire street,	trifling		Sparks setting fire to roof.
	12	Thomas A. Davis,	Brookline,			Supposed from lamp carried into cellar.
	17	Trull & Miller,	27 Commercial st.	6,200	6,000	Origin unknown.
		Lebbeus Stetson,	" "	717	717	
		Heywood & Carnes,	" "	1,000	1,000	
	18	John E. Lodge,	Rear Franklin street,			Incendiary. Four valuable horses perished in the flames.
		Rufus Bigelow,	" "	50		
		Benjamin Howard,	" "	250		
		George M. Barnard,	" "	250		
		T. W. Walker,	" "	250		
	18		Tremont road,			Burning chimney.
	20	Abram T. English,	Hanover street,	trifling		From stove.
	20	Luther Barnes, jr.	Charles street,			Burning of tarred paper.
	21	Irish families,	East Orange street,	trifling		Supposed from shavings lying on floor.

Date.	Owner or occupant.	Situation.	Loss.	Insurance.	Causes, &c.
1845. May 21	Seth Wilmarth,	Harrison avenue,			No alarm. Upsetting of glue pot.
21	Kingman, Hutchinson & Co.	Cor. Washington st. and Spring lane,	1,800	1,000	Upsetting of lamp into shaving trough.
	James Loring,	" "	300	300	
	James Munroe & Co.	" "	6,000	6,000	
	Ozias Goodwin,	" "			
21	G. W. Whipple,	Belknap street,			Burning of matches in cellar.
22	Irish families,	Creek square,			The fire was communicated to a bed, from lamp, and two children who were asleep at the time, were rescued in an insensible condition, one of them badly burned.
22	James Young,	South Boston,	100		Burning of small building used as a lobster house.
24	City of Boston,	Jail yard, Leverett st.	500		Set on fire by a boy named Leonard A. Wise, who was sent to the House of Reformation.
	Nathaniel Coolidge,	" " "	500		

May 25		Cambridge,			Trifling damage to building.
26	Ezra Trull,	Ivers street,	200	200	Incendiary.
	William Wentworth,	" "			
	John Stevens,	" "	50	50	
26	Jacob Hall,	Commercial street,	600		Incendiary. During the night the stable of Messrs. Barnard and Trull, on Ivers street; the privy of house No. 122 Court street; the furniture warehouse of I. M. Doe, Cornhill; were set on fire, and put out without an alarm. Four horses were burned.
	Nathan Boynton,	" "			
	S. P. Fuller,	" "	500		
	James L. Mills,	" "	150		
	John Hodgman,	" "	100		
	James Light,	" "	100		
	William Becker,	" "	100		
26	Benjamin Smith,	Fulton street,	400	100	Incendiary.
	Edmund Bowker,	" "	140	140	
	T. A. Bailey,	" "	125		
	J. Fowler,	" "	150	68	
	True W. Seaver,	" "	600		
	Thomas Waterman,	" "	125		
	William Earl,	" "	1,000	68	
26	Heirs of Joseph Stone,	Langdon place,	1,000		
	Andrew Jackson,	" "			
	Charles H. Wilbur,	" "			

Date.	Owner or Occupant.	Situation.	Loss.	Insurance.	Causes, &c.
1845.					
May 26	William Wiley,	Langdon place,	100		
26		Green street,			Trifling damage to roof, from defect in chimney. No alarm.
26	Fifty Associates,	Franklin street,	375	375	Incendiary.
28		Cambridge,			Burning chimney.
29	Wellington & Pierce,	Charlestown,			Burning of two dwelling houses.
31	George P. Dudley,	Sumner street, East Boston,	1,000		Caused by boys playing with friction matches under the shop.
			$86,436	$55,196	

Department called out this month—{ Alarms in the City, 36 / " out of the City, 6 } Total, 42 times.

Date.	Owner or Occupant.	Situation.	Loss.	Insurance.	Causes, &c.
June 1	J. Toomey,	Chelsea,			Partial burning of a barn.
2	Jonathan Howe,	39 Merchants' Row,	500		Sparks from chimney falling among papers.
4		Pearl street,			Burning chimney.

4	Francis R. Roberts,	114 Cambridge st.	300	300	Incendiary.
	John L. Roberts,	" "	100	100	
4	A. H. Bowman,	Ivers street,			Attempt to fire the stable; no alarm.
5		Cambridge,			Burning of several buildings.
7	Burgess & Beals,	Commercial street,	500		Incendiary.
8	Bryant & Welch,	Causeway street,	trifling		From steam boiler.
8	George W. Whipple,	Belknap street,			Incendiary.
9	Leonard Fuller,	Bridge street,			Sparks lodging in gutter.
10		Roxbury,			Burning of R. Road bridge.
11	Dr. Morgan,	Curve street,	trifling		From defect in chimney.
11	Belinda Thompson,	Snowhill street,			Shed set on fire by ashes placed in a barrel.
11		Charlestown,			Burning of a carpenter's shop.
12	Bates & Johnson,	Beverly street,			Caused by leaving lamp burning in glue pot while at dinner.
13		T Wharf,			Bales of cotton lying on wharf set on fire.
14	Fifty Associates,	98 Washington st.	375	375	Supposed from small furnace in attic.
	Litch & Whipple,	" "	468	468	During the night attempts were made to fire a building in Franklin Avenue; the printing office of W.
	Dearing & Greenleaf,	" "	50	50	
	George W. Wilson,	" "	50	50	

Date.	Owner or Occupant.	Situation.	Loss.	Insurance.	Causes, &c.
1844.					
June 14					W. Clapp on Water street; a privy on Poplar street; shop of P. U. Blunt on Province st.; and the Church in Chauncey place, all of which were put out without alarm.
16	Francis Merrifield,	35 Blossom street			Trifling damage from defect in chimney; no alarm.
17					False alarm.
17	Rachel Averill,	Court street,			From camphene lamp.
18	Mr. Pratt,	Temple place,			Trifling damage to dwelling.
18	Jacob Todd,	Spear Alley,		trifling	From defect in oven.
21	Francis R. Roberts,	114 Cambridge st.			Trifling damage; incendiary.
25	Mr. Glazier,	Medford,			Burning of saw mill.
26		Roxbury,			Burning of Tremont Starch Factory, and 6 dwellings.
27		Leverett street,			Burning of bed clothes.

28	C. F. Treadwell,	52 Cambridge street,			Trifling damage; incendiary.
30					False alarm.
			$2,343	1,343	

Department called out this month— { Alarms in the City, 20 } / " out of the City, 6 } Total, 26 times.

July 1					False alarm.
3		Roxbury,			Burning of two buildings.
8					False alarm.
11	Heirs of Daniel Sargent,	Commercial street,			Supposed by some, from spontaneous combustion; by others, from smoking pipe among rags.
	L. A. Phillips & Co.	" "	650		
	William E. Richardson,	" "	910	910	
18		Haverhill street,			Bundle of hay set on fire in storehouse—put out with buckets.
18	Mitchell & Barker,	Lancaster street,	1,900	1,000	Incendiary.
	Nathan Knowles,	" "			
	Dean I. Adams,	" "			
	Merriam & Gleason,	" "			
	S. M. Odiorne,	" "			
	Ezra Trull,	" "	3,800	2,000	

Date.	Owner or occupant.	Situation.	Loss.	Insurance.	Causes, &c.
1845, July 18	Whitman, Penniman, and others,				
19	C. & E. Trull,	Beverly street,	100	100	Attempt to fire the stable of Gorham & Co.—no alarm.
20		Roxbury,			Burning of wood and brush.
21		Harrison Avenue,			Trifling damage to a small building.
26	Joel Wheeler,	Ash street,	2,500	2,500	Incendiary.
	Asa Stearns,	“ “	50		
26	City of Boston,	Tremont Row,			Engine House, No. 18, set on fire while the company were on duty.
26	James F. Fullam,	Bowdoin square,	50	50	Incendiary.
26	Josiah Quincy,	Bowdoin street,			Trifling damage. Incendiary.
26		“ “			Shed in rear of the above. Supposed from sparks.
					During the night attempts were made to fire the Boarding House of R. Pierce, No. 15 Brattle st.;

					the livery stable of N. Streeter, Bromfield street; a privy on the corner of Mt. Vernon and Hancock streets; a dwelling on S. Bennett street, and a shed in Friend st., which were put out without an alarm.
28					False alarm.
			$9,960	6,560	

Department called out this month—{ Alarms in the City 12 } Total 14 times.
{ " out of the City, 2 }

Aug. 1	Henry Tyler,	Union street,	300	300	Caused by falling of camphene lamp.
3	Isaac Foster,	Devonshire street,			Incendiary; No alarm.
3	Mr. Taplin,	Cambridge,			Burning of twine factory.
4	Irish families,	Dedham street,			Trifling damage—put out with buckets.
5					False alarm.
5					An attempt was made to fire a small stable occupied by Charles Andre, on Com-

Date.	Owner or Occupant.	Situation.	Loss.	Insurance.	Causes, &c.
1845. Aug.					mercial street, opposite E. Boston Ferry; put out without an alarm.
7	City Bank,	State street,			An attempt made to fire the building by placing combustibles on the stairs.
7	Gilbert & Sons,	" "			Attempt made to fire the privy by two boys—one named John Haley, was sent to the House of Reformation.
9	J. E. Gleason,	Hawley street,			Incendiary.
10	Fifty Associates,	50 Cornhill,	trifling		Incendiary; attempts were made to fire a dwelling in Wall street, also the dwelling of S. W. Nichols, Cooper street.
11		Lowell R. R. Depot,	200		Burning of cotton waste.
12		Cambridge,			Burning of toll house on the bridge.
14		Cambridge,			Burning of a building.

15	Nichols,	Broad street,			Burning of sofa, said to have taken from sparks of lamp.
15		Endicott street,			Bell on Catholic Church tolling.
15					False alarm.
15					False alarm.
15	Fifty Associates,	Brattle Square,	6,000	5,000	Incendiary; Mr. William Roulstone, of Engine Co. No. 7, and Emerson G. Thompson, of Engine No. 3, of Charlestown, were instantly killed by the falling of a wall; several persons were severely burned in their endeavors to remove the horses from the stables.
	Lucius Doolittle,	" "	2,000		
20	Thaddeus Munroe,	South Margin street,			Defect in chimney; trifling damage.
21	William Pray,	Weymouth,			Burning of a barn.
23	Oliver Tenney,	Dorchester,			Partial burning of a building.
24		Canton street,			Privy set on fire by a child.
27	John Codman,	48 Washington st.			
	Bliss & Fuller,	" "			

Date.	Owner or Occupant.	Situation.	Loss.	Insurance.	Causes, &c.
1845.					
Aug. 30	Colored persons,	Southac street,			Incendiary.
30	D. Wise,	Merrimac "			Bursting of camphene lamp.
			$8,500	5,300	

Department called out this month—{ Alarms in the City, 17 / " out of the City, 5 } Total, 22 times.

RECAPITULATION.

No. of Engineers,		8
“ Members,		518
“ Engines,		14
Feet of Leading Hose,		9,606
“ Suction Hose,		370
No. of Hose Carriages,		19
“ Buckets,		118
“ Axes,		31
“ Hook and Ladder Carriages,		1
“ Hooks,		4
“ Ladders,		16
“ Crotch Poles,		4
“ Reservoirs,		100
“ Fire Plugs,		29
“ Engines in charge of Volunteer Companies,		3
“ Engines not in use,		3
“ Feet Suction Hose, not in use,		81
“ Hook and Ladder Carriages, not in use,		1
“ Hooks not in use,		10
“ Ladders, do.		28
Loss of Property,		$231,191
Insurance,		$172,840
Alarms out of the City,	43	
Alarms in the City,	180	
Total turns out,	223	

City Document—No. 33.

CITY OF BOSTON.

FIRE DEPARTMENT.

In Board of Aldermen, Sept. 12, 1845.

Laid on the table, and ordered to be printed.

Attest, S. F. McCleary, *City Clerk.*

In City Council, Sept. 22, 1845.

The Committee to whom was referred the Petition of Moses Warren and others, to have the Ordinances relating to the Fire Department so modified as to allow each Company annually to elect its own officers, have had the subject under consideration, and ask leave to

REPORT:

That they consider the subject committed to them as one of the most delicate and difficult that has come before them for investigation. A well regulated and efficient Fire Department is of inestimable importance to the lives and property of the citizens, and no attempt should be made to enact, modify, or repeal its laws, without much deliberation and caution. The Fire Department has undergone various changes and modifications, to meet the increasing demands of the City; and though it may never have been considered an inefficient Department in any of its various modes of operation, it was not till the organization of the present efficient Fire Department, in 1837, that the wants of the City were fully and satisfactorily met. Under the Mayoralty of Mr. Eliot, the Department, as is well known, underwent a thorough revision,—or rather a new Fire Department was organized. This Department was founded upon different principles from any that had preceded it. Instead of performing voluntary labor, as had always been the custom, members entering this Department were paid for their services.

For five years after the organization of the present Department, each Company annually elected its own officers; namely—a Foreman, an Assistant Foreman and Clerk, and under this mode of organizing the Companies they proceeded harmoniously and no complaint was made, so far as the Committee could learn, till about the year 1841, when in two or three of the Companies, on the election of certain officers, a boisterous triumph was manifested by clapping, shouting, &c., which led to a complaint from those annoyed, to the City Government, or some members of it. But of these complaints originated the Ordinance, now so obnoxious to the Members of the Fire Department which passed the City Council Dec. 12, 1842, and went into operation in the Summer of 1843. By this Ordinance the officers of the Companies, when once elected, hold their offices till they are vacated by resignation, death, or removal by the Mayor and Aldermen.

No sooner did this Ordinance go into operation than large numbers of the most valuable members of the Fire Department immediately resigned, leaving their places to be filled by many, it is believed, who did not conceive morality, temperance, and good order essential requisites to a Company of Enginemen.

The broken ranks of the Companies having been filled, the new men, who had enrolled themselves from various motives members of the Department, soon became uneasy and restless under the new law by which they were prohibited from annually electing their own officers, and a petition was got up and signed by about four hundred members of the Department, including a majority of the Company Officers, to have it repealed. The subject received the deliberate consideration of the City Council, but for reasons which were doubtless satisfactory at the time, the Ordinance was allowed to remain in force. Since that time there has been in many of the Companies an excited and feverish state of things. Members are constantly asking for a discharge, and others are as constantly being admitted. The records of the past year will show that as great a number have been admitted and discharged from the Department, as are usually connected with it, between five and six hundred.

The petition now before the City Government contains the names of 1256 individuals, most of whom are represented as present or past members of the Fire Department. They ask for such a modification of the City Ordinances as will allow them annually to choose their Company Officers, or in other words they ask us to repeal the Ordinance of 1842 and let them fall back on that of 1837, under which they say the Department was never more harmonious in its actions, or efficient its operations.

Soon after the petition, above referred to, came into the hands of the Committee a meeting of its members was called and the subject was investigated in part. Another meeting was held, and the subject growing in importance with the Committee, they deemed it expedient that public notice should be given when the Committee would again be together, that to all interested might be given an opportunity to be heard. This was done, and about twenty individuals, present or past members of the Fire Department, appeared before the Committee. They went, many of them, very fully into the subject presenting the condition and efficiency of the Department from 1837 to 1842, together with its present state and prospects, but of the large number of firemen present no one appeared to oppose the prayer of the petitions; all were decidedly in favor of falling back upon the Ordinance of 1837. After a long and laborious session of the Committee it adjourned for one week. At the adjourned meeting of the Committee the number present was larger than before, and the whole ground was again gone over, every speaker with the exception of two, testifying that the Fire Department was not in as good condition as before the passage of the Ordinance of 1842, by which the Companies were deprived of the privilege of annually electing their officers.

The Committee, on further investigating the subject, find that the Revised Statutes of 1836, page 193, Sec. 12, secures to Enginemen the choice of their officers. This law had previously been in operation half a century, having been passed in 1786. It is compiled among the City Ordinances of 1834, and was then of course considered to be the law.

The next act passed by the Legislature bearing upon this point, is on 126 page of the City Ordinances, Sec. 2, and was passed Feb. 7, 1820, authorizing the town of Boston to have Fire Companies who were directed to meet some time in the month of May annually and choose their officers.

We now come to the City Charter, dated Feb. 23, 1822, page 19, Sec. 19, where power is given to choose Firewards in ward meetings, who "shall have all the powers, and be subject to all the duties now by law appertaining to the Firewards of the town of Boston," (power to choose Firewards transferred to the Mayor and Aldermen. Act June 18, 1825, Sec. 1, page 129, City Charter.)

The next is an Act of the Legislature "establishing a Fire Department in the City of Boston," passed June 18, 1825, alluded to in the preceding paragraph. Sec. 1 and 2 of this Act authorises the Mayor and Aldermen to choose Firewards. From Sec. 2 it is plain that Engineers and Firewards are the only officers that were to be chosen by the Mayor and Aldermen. Sec. 6, repeats the State law relative to Firewards, but says nothing in relation to Enginemen choosing their officers.

Next is an Ordinance of the City passed July 15, 1833, "for the preventing and extinguishing fires." By this Ordinance, page 135, Sec. 9, the choice of officers is left to the Companies, who are directed to "choose a Foreman, two Assistant Foremen, and a Clerk." Acting under the State laws the Companies met *annually* for the choice of officers.

The only other Ordinance to be named is that of 1837. On page 18, Sec. 9, supplement to City Ordinances, it is stated that the Companies appointed by the Mayor and Aldermen, "shall have a Foreman, an Assistant Foreman, and a Clerk, and these officers shall be chosen by their respective Companies, subject to the approval of the Mayor and Aldermen." Acting under this Ordinance for a period of five years, from 1837 to 1842, the Companies met annually and chose their officers.

It has been the universal practice for Enginemen to meet annually and choose their officers for the coming year, and from the commencement of the new or paid Department in 1837 up to the taking effect of the Ordinance of 1842 no Company was disbanded, nor was there any difficulty between the Companies, or collision with the higher authorities.

The Committee after a thorough investigation of the subject committed to them, are of opinion that the Fire Department has retrograded in morals and efficiency since it came under the operation of the Ordinance of 1842. Large numbers of the most valuable members have left the Department in disgust at the conduct of officers they have no power to remove, and large numbers more are awaiting the action of the City Government on their petition, to decide whether they shall leave or remain in the Department. Believing as the Committee do, that the interests of the Fire Department, and the citizens generally, would be greatly promoted by a repeal of the Ordinance of 1842, they would submit to the City Council the accompanying Ordinance for adoption.

For the Committee,

THOMAS A. DAVIS, *Chairman.*

In City Council, Sept. 22, 1845.

Sec. 1. *Be it ordained by the Mayor, Aldermen and Common Council of the City of Boston, in City Council assembled*, That the Ordinance in addition to an Ordinance entitled " An Ordinance for preventing and extinguishing fires," passed Dec. 12, 1842 be, and the same is hereby repealed.

Sec. 2. *Be it further ordained*, That the 9th section of the Ordinance " establishing a Fire Department" passed July 29, 1837, be amended by adding the word *annually* after the word " chosen" in said section.

City Document—No. 34.

CITY OF BOSTON.

JAIL.

In Common Council, September 25, 1845.

Ordered, That the Committee on Public Buildings be authorized to submit in print, any information they may have on the subject of a new Jail at South Boston.

Sent up for concurrence.

P. W. CHANDLER, *President.*

In the Board of Aldermen, Sep'r 29, 1845.

Read and concurred.

BENSON LEAVITT, *Chairman pro tem.*

CITY OF BOSTON.

The Joint Committee on Public Buildings, who were directed to report in print, plans of the proposed new Jail and Keeper's House, and all other information relating thereto, respectfully submit the following

REPORT:

Before fixing upon a plan for a new Jail and Keeper's House, a part of the Committee visited Hartford and Weathersfield in Connecticut, New York, Philadelphia and Harrisburg. The Committee are aware that the building of Prisons of every description is a subject that at this enlightened age employs the attention of philanthropists, and is attended with many difficulties. The plan now submitted to the City Council, which the Committee have adopted after mature deliberation, they do with confidence recommend to the City Council, for their adoption. The plan now proposed is believed to be the best plan for the County of Suffolk, and here it must be borne in mind that the Jail now proposed to be erected, is a prison of detention and in most cases for prisoners waiting for trial, seven eights of all that are committed are of this class, and they are detained from one to thirty days, in a few instances it may be longer. The other class of persons who are confined in the Jail, are debtors and witnesses, who frequently are detained for a number of months, for the latter class there is much better accommodations in the proposed Jail, than has come under the observation of the Committee, or of which they have any knowledge, and is far preferable to the Auburn or Pennsylvania plans. The Jail now proposed is to be built of brick and stone, in the most substantial manner, a full detailed description is hereunto annexed.

For the Committee,

BENSON LEAVITT, *Chairman pro tem.*

The Jail proposed to be erected by the Committee on Public Buildings of the City of Boston, contemplates two distinct buildings, one of which to contain the cells for the prisoners; the other building is to be devoted to the uses of the keeper's family, and various offices connected with the Jail, it is to measure 45 feet square and to be four finished stories in height, the lower or basement story to contain a kitchen, a scullery, three cellars for stores and fuel, a hall or passageway running across the story, communicating with two entrances on the sides of the building, various closets, together with staircase.

The principal story is divided into five rooms, two of which are parlor and sitting rooms for the keeper's family, one other for the jailor's office, one other for an examination room, for dressing and cleaning the convicts, on their entrance into the prison, the remaining room to be for a court or magistrate's room, for administering oaths or other purposes; this story also contains two distinct entrances, communicating with halls and staircases, leading to the upper stories of the building; the entrance for the jailors and magistrates being entirely distinct from that of the keeper's family, a convenient store closet and pantry is also located in this story, and a separate flight of stairs for the servants of the family of the keeper, to pass and communicate with the upper stories. The second story has two of its rooms for chambers of the keeper's family, the remainder of the story is arranged for a chapel and work room; if thought expedient the work room may be located in some other portion of the building, the two rooms before named being used for the chapel only, this story has also the staircases of the lower story continued on to the story above, except the jailor's staircase, which terminates at this level of the building. A convenient dressing or bed room is also contained in this story for the keeper's family.

The third or upper story, contains a females and debtor's room, for jail purposes, and three other rooms for keeper's family; together with the two staircases continued from below. A water closet is here fitted up for the keeper's family. The stories of the buildings are all of such height as to offer good ventilation and present proper portions; it is intended to finish the interior in a plain and substantial manner, but without useless expense of any kind. The Committee have reduced the keeper's house from the dimensions originally given it by the architect, feeling confident that its present size will allow ample space for the various rooms required for jail purposes, and also the use of the keeper's family.

The Jail is to measure 173½ feet in length and 28 feet in width, to contain four separate stories or ranges of cells, arranged in two separate wings with their backs against the rear wall of the building and bounded by said wall, each story of the cells will be nine feet clear height, the number of said cells will be seventy. Sixty of them are intended for criminals, each measuring 6 by 11 feet clear inside dimensions, the remainder of them to be for the use of debtors or witnesses, and to measure 13 feet by 11 feet. In front of the cells, and occupying the remainder of the width of the building is to be a corridor 12½ feet in width, open from the level of the floor of the lower tier of cells to the roof of the building, having galleries in front of each cell for access thereto, communicating with staircases that extend from the lower to the upper range of the cells.

The ventilation of the cells will be as perfect as possible, the flues for this purpose are to be of large size and fitted with openings and registers of the most approved description beside the flues, each cell is to have an opening in the rear wall for light and air, this opening to be glazed as a window, and to be placed quite near the ceiling of the cells, and to be of such size as to prevent the possibility of an escape through it, its form being long and narrow.

The windows of the Jail building open into the great corridor, and of extraordinary size, thus allowing sufficient light to enter the cells through the grated doors of the same, and providing means for ample ventilation, the sashes being all moveable.

It is proposed to warm the Jail building and its cells by steam, passing through pipes arranged in the corridor, which are to be connected with a boiler for the purpose, set in the cellar or basement story of the keeper's house. The heat thus attained will be of the most pleasant kind, and uniformity can be kept up throughout every part of the building, which good judges decide cannot be as well attained by hot air furnaces, or any other method at present used for heating.

It is advised that the greater part of the cooking, as well as the drying of clothes be performed by the aid of the steam, made from the boiler aforesaid, the improvements now in use in these departments, in our hotels and other buildings, of long and satisfactory trial, seem to warrant the idea that no more economical and perfect system can be adopted for the culinary purposes.

It will be seen from the foregoing description that the "Auburn System" of arrangement of the cells is departed from, on the plan proposed to be adopted, this variation has been made after a careful examination of prisons in New York, Philadelphia, Harrisburgh, New Haven, Hartford, and various other cities, during a recent visit made for the express purpose, by a portion of the Committee.

A full and complete specification of the works re-required in the erection of the buildings having been prepared by the architect, and printed for the use of the City Government, it is deemed unnecessary in this communication to describe them any more in detail.

A lithographic plan of the Jail and Keeper's House, is now executed, by which the Government can clearly learn the arrangements and advantages of the "proposed design."

The material contemplated to be used for the walls of the building is *brick*, to be laid in hydraulic cement, this will render the building much dryer than if built of stone, and will be a saving in expense also.

It should be remarked that the *form* and *extent* of the buildings have been materially changed and enlarged, from the original plan upon which Mr. Bryant made up his estimate of the cost as presented to the City Council.

City Document.—No. 35.

CITY OF BOSTON.

SEA WALL.

In Common Council, October 2, 1845.

Read, passed to a second reading and ordered to be printed.

Attest, W. P. Gregg, *Clerk C. C.*

CITY OF BOSTON.

In Common Council, July 10, 1845.

Ordered, That the Committee on Public Lands be directed to inquire into the expediency of building a Sea Wall from Urann's Wharf, running southwesterly to Roxbury Line, parallel to Harrison avenue, about 800 feet southeasterly therefrom.

Sent up for concurrence.

P. W. CHANDLER, *President.*

In the Board of Aldermen, July 14, 1845.

Read and concurred.

THOMAS A. DAVIS, *Mayor.*

CITY OF BOSTON.

In City Council, October 2, 1845.

The Committee on Public Lands, to whom was referred the Order of July 10, in reference to the expediency of erecting a Sea Wall parallel with Harrison avenue, from Urann's wharf to Roxbury,

REPORT:

That after a full investigation of the matter, they find that the present dyke, (which is the only protection to Harrison avenue and lands westerly thereof,) is in a very dilapidated condition, and within a very short time will require extensive repairs. If it should be thought necessary to continue that as the only protecting barrier to the property in that vicinity, this will demand an expenditure of several thousands of dollars every few years, as it has done for past years, with no other benefit arising therefrom other than the safety of the property within its bounds.

But in carrying out the plan contemplated by the present order, a far better protection to the property would be insured than by repairing the dyke, and in addition would reclaim and enclose an extent of from thirty to forty acres of flats, almost sufficiently filled up as to require the making of streets only to bring it into the market for sale, which the Committee feel warranted in saying, (judging from prices for which lands have been sold in that vicinity the past season) would average 30 cents per foot, and thereby insure to the City from $400,000 to $600,000. For the City to realize this amount of property, it becomes necessary to erect, as contemplated by this Order, a Sea Wall running from Urann's wharf, so called, southwesterly to Roxbury, parallel to Harrison avenue, say from 600 to 950 feet therefrom, which the Committee find can be done for about $15,000, and when done would not only insure the benefits described, but would place a complete breastwork as a protection to all the extensive improvements made and being made in that vicinity, easterly of Washington street.

Still further the Committee feel, as they are sure every member of the City Government would, if they should take the trouble to investigate the matter, that an improvement of this nature is more loudly called for at the present time, not only as a source of income to the City, but as a protection to a vast amount of property, which in case a southeasterly storm with a high course of tides should take place, (while the dyke exists in its present condition) would be much exposed and the loss must necessarily in amount be very far more than the estimated cost of erecting the contemplated Sea Wall.

The Committee might if they thought it necessary to convince the minds of the members of the City Government, cite several other reasons for proceeding in this improvement at the present time, such as the opportunity which would be thereby offered of making more avenues from the City with the neighboring town of Roxbury, and also affording opportunities for the erecting of much wharf property, jutting out from said Sea Wall, a species of property much wanted, caused by the many improvements made around our City within a few years past.

For the reasons thus offered, the Committee would recommend the passage of the following Order.

For the Committee,

BENSON LEAVITT.

Ordered, That it is expedient that a Sea Wall should be erected on flats belonging to the City, running southwesterly from Urann's wharf, so called, to Roxbury, from 600 to 950 feet from Harrison avenue and parallel thereto, and that the Committee on Public Lands be charged with the execution thereof.

Ordered, That the City Treasurer be and he hereby is authorized to borrow under direction of the Committee on Finance a sum of money, not exceeding fifteen thousand dollars, for the purpose of building a Sea Wall on Harrison avenue.

City Document—No. 36.

CITY OF BOSTON.

DR. BELL'S LETTER.

In Common Council, October 9, 1845.

Laid on the table and ordered to be printed.

Attest, W. P. Gregg, *Clerk C. C.*

Somerville, Sept. 20, 1845.

To His Honor the Mayor of Boston:

When with some other gentlemen connected with the Municipal Government, you did me the honor, last week, to call upon me and ask my opinion on the heating and ventilating of the proposed new City Prison, implying necessarily, in a construction of the kind, some expression of judgment as to the general project itself, I was led to suppose that the scheme was so far matured in its great outline as to render useless any detailed consideration of its merits and expediency.

Learning from the public prints that some more deliberation will be had before an undertaking, extending for good or ill into the next half century of your municipal history, will be finally decided upon, I feel it alike a duty and a privilege to extend the views, at that interview so briefly and hastily suggested.

I will begin by expressing my full conviction, derived from many years' interest in, and attention to, the subject of prison construction and prison discipline, and an examination of many recent penitentiaries in this country and Europe, that the plan submitted falls far behind the age; that it embraces most of the objectionable features of the two great modern systems, (as they are considered,) the *separate* and *the silent*, with few of the best points of either, and that its arrangement, as regards the following important desiderata, security, inspection, classification, non-communication within and from without, heating, ventilation, cleanliness, and convenience of being extended to meet future exigencies, are all such as to prevent its being ranked in the same class with the ordinary late built similar establishments of the old world.

I cannot regard it as the scheme of such a prison, as would be creditable to the City of Boston, so justly proud of its willingness to sustain its public institutions at the highest point,—as such a plan as is due to those many philanthropists, who have devoted years in endeavoring to realize the true ends of punishment, and as a first and essential step, to improve the construction of prisons,—as such a plan as would be honorable to a country which has been several times visited by eminent commissioners from the old world, in search of improvements in this great object of humanity and policy.

I am not embarrassed in a free expression of my reasons for dissent, by any knowledge of the author of the project before you; no offence can therefore be taken by any one personally, however widely my judgment may differ from his.

To make my objections intelligible, it is necessary to dwell a moment on the great division of systems of prison management, which without any good results, and with little true basis, has been established in this country. These are the *Pennsylvania* or *separate*, and *Auburn* or *silent* systems.

The great merit of the latter, is its entire immunity from *being broken*, and the wonderful extent to which a single eye watches some hundreds of men. The block of cells within a roofed wall, or a prison within a prison, solves this difficulty in an extraordinarily satisfactory manner. Perhaps no modern invention has more fully met its design, than has this construction the important point of perfect confinement of prisoners.

This is believed to be, however, the only point of considerable value afforded by the Auburn plan. Its disadvantages are, the impossibility of avoiding intercommunication, that it cannot be heated or ventilated with any approach to success, that its tomblike aspect, its caged doors of iron bars, its scanty light, its want of those conveniences which nature demands and cleanliness requires, together with a perfect inaptitude to any approach towards classifying its inmates, in accordance with their characters, crimes, youth, fitness to influence each other, or any other point. It is a system which must be carried on (except at the fatal hazard of insurrection which any departure from a stern discipline will gradually, sooner or later involve,) with military exactness and rigor; a system addressed to the principle of fear; and the proper collaterals to this form of construction, are the tone of military command, the lock-step, the parti-colored dress and the *lash*. In short, it is a system in which the application of means addressed to the higher and better motives,—to man as a fellow being,—human though fallen, is and must be inefficient. The prisoner is caged within a barred door, degraded in any risings of self-respect by his more than daily marshallings with all that is vile in his species, sleeping in an atmosphere fœtid with his own excretions, and rendered depressive and vitiated by human respiration. He feels that society has turned against him, and lives in the malevolent hope that he can again retaliate on his oppressor.

I need not say to you, doubtless well informed by recent works and scrutinizing reports on these topics, that a system addressed to a different class of motives has been tried with no inconsiderable degree of success, and that as regards the young, at least, a reasonable though limited hope may be indulged that prisons may do something in bringing about the *second* great object of punishment—reformation.

In the *separate* system, where each convict has an apartment fitted with conveniences and comforts for personal exercise, cleanliness, labor, reading, &c., a degree of familiar and social intercourse by the humane and the official staff, is rendered easy without relaxing that distant and military regimen, which is necessary to keep numbers at large, in subjection under any reasonable corps of guards. Under this system little communication between convicts can occur. Probably under no system can this be wholly prevented, Auburn or Pennsylvania, but in both, though to very different degrees, it is mitigated. In the latter, it is probably so far counteracted as to render it of much less moment, than its friends or foes deem it to be. The non-liability to be recognized afterward in the world, by fellow-prisoners, claimed as a great point by some, appears to me too questionable in a reformatory light to deserve mention, as an excellency of the *separate* system.

Now, you seem to me, to adopt the strong and undoubted good points of neither of these plans. The peculiar security of the Auburn is nullified by having no area in the rear of the cells, and by having an external window to each cell—the prisoner being separated from liberty and his old companions only by a wall and a window ;—indeed in your plan, this wall is to be merely of cement and brick, a kind of masonry perhaps without parallel in any external prison wall, and which, to my judgment, deduced from considerable acquaintance with such work, could scarcely be at all trustworthy as far as the average of prisoners is regarded, and certainly ludicrously inadequate against that class of jail-breakers of which no prison is without abundant instances.

The excellent point in the *separate* system of preventing to an efficient degree the clandestine communication of those, whose influence on each other would be evil alone, is lost sight of, in the doors composed of iron bars in the present plan, which are unavoidable under the idea of heating and ventilation indicated, as proposed.

The recessing these doors back a foot or eighteen inches, would doubtless render the conversation less free, than if they were *flush* with the front wall of the block of cells, but every one conversant with the Auburn penitentiaries knows that such communication is scarcely materially affected by any probable vigilance or ubiquity on the part of the watch.

The only attempt at any classification I find in your plan is, that upon the fourth story, five cells are made of larger size for women and for male witnesses, and a bridge thrown across the area to the jailor's house to two day-rooms for these classes. (I would here also remark that no arrangement appears to be indicated, by which prisoners confined in these day-rooms can obey the calls of nature or by which they can retire at will from their associates, unless it is presumed that a guard is to be in constant waiting upon them—no very probable arrangement.)

Those engaged in the endeavor to perfect prison discipline have deemed the adoption of some degree of classification, some separation of prisoners in accordance with their characters, ages and disposition to do each other evil or good, as the present greatest desideratum, even in penitentiaries for felons of the deepest guilt, and it is by no means unlikely, that this object will be provided for in the next public constructions of enlightened countries. If this separation is advisable with such classes, reduced apparently to the same moral level, how much more important, how indispensable is some classification in a prison such as you propose, where every grade and form of moral depravity and even mere misfortune or accident, without any guilt, must be provided for. United States' criminals, pirates, slavetraders, mail robbers, vessel losers and other abandoned villains of our own and foreign nativity, persons waiting for trial for the worst felonies, witnesses unable to recognize for appearance, boys, women, unfortunate debtors, blacks and whites, are in your present plan to be thrust into the same great apartment, to breathe the same atmosphere! Is this just? is it to be thought of in a Christian community? Is the generally highminded and honored merchant, unfortunately afflicted with an irrepressible temper, whose assault upon another requires something beyond a mere pecuniary fine; is the heated politician, perhaps in all other respects, a valued man, whose zeal has betrayed into libels too numerous or too aggravated not to require some confinement to satisfy an offended law; is the western merchant seized far from home and friends for perhaps a doubtful or fictitious claim; is the perhaps respectable foreign *mate*, with none feeling any interest in him, and surrounded with the reputation of his class for recklessness, who has been an involuntary witness of some act of homicide at sea—are such men as these to become co-tenants of your prison, with the vilest of the vile, with not even a closed door between the sound and smell of all that is debased in humanity? Are such men or indeed any untried and, of course, presumptively innocent inmates of your prison, to be placed where they cannot be beyond the annoyance of the wretches, picked up in the purlieus of a large city, many of whom cannot escape the *delirium tremens*, consequent upon their confinement, with all its irrepressible annoyances to others, most of whom cannot at once and for their short detentions acquire those habits of silence by day and night, on which the Auburn system and your modification of it are based?

No preparations appear to be made for the sick of any kind. The delirious mother and her crying infant, the real or the pseudo lunatic, the reckless sailor witness and the groaning first comer under the iron grasp of the law, cannot fail to make "night hideous," in this common receptacle. All analogies fail between the inmates of a house of correction or state prison and such a complicated prison as this, (as regards its inhabitants.) No other prison can demand so great regard to its capability for separating or classifying.

The ventilation of prisons has been considered as of the highest moment ever since, and probably long before, the days of Howard. It has been long known that that awful pestilence, the *malignant typhus*, or *jail fever*, the result of ill-ventilated prisons is not confined in its ravages to the mere tenants with whom it commenced. Judges and juries, citizens at greater or less distance from the focus of contagion, have been sacrificed to this fatal neglect in ventilation. A neighboring city of our own, demonstrates that the occurrence of this plague, is not solely a matter of past history or of foreign lands.

Still the hazard of occasional epidemics is a small motive to provide a proper ventilation, compared with the ever prevailing consequences of its neglect in the gradual;

destructive influence of impure air upon the health of body, and its depressive, exhaustive influences upon the intellect and moral sense. Man has no more right to doom his fellow man to foul and poisoned air, than he has to compel him to partake of the water of the gutter or of tainted provision.

Modern science, humanity and experience have abundantly demonstrated, that there is no more inevitable necessity of the one than the others. Ventilation and heating have been reduced to a plain, reliable, practicable system, so that in the recently constructed prisons of Europe, the exact quantity, temperature and hygrometric condition of air supplied to each human being, is as capable of being measured and supplied, as the necessary quantity of water, food or clothing. What is proposed in your plan to carry out this essential requisite? Nothing, it strikes me, beyond what was tried and failed a quarter of a century since. Close stoves in the corners of the area are to pour their overheated, mephitic, scorched air and gases into the upper parts of the area, where diminished gravity leads them, and it is expected that a small flue from the top of each cell will allow of a constant escape of the air which will enter through the barred grate, constituting the cell-door. The pure air is to be admitted through a direct opening in the wall, and the windows of the area, (only on one side, of course,) are to be pulled up and down according to the state of the weather.

In only one point, do I notice a recognition of any acquaintance with the great modern discovery in ventilation, that of suction of the foul air by the power of an adjacent chimney, heating a flue. At the bottom of the chimney of the keeper's house, is an opening by which the air is to be drawn off. To say nothing of the entirely insufficient extent of this arrangement to accomplish more than a trifling part of the duty required, I know no principle in the laws of fluids, by which it could be hoped that flues opening upward from the tops of the cells would work harmoniously with a counter current of air drawn off at bottom. The resulting effect of two such forces, if the one was not wholly destroyed by the other, would be, probably, to balance each other and leave the vitiated air about as they found it!

The efficiency of flues opening from the tops of rooms especially if cool air be admitted freely at the bottom, and terminating in an attic, is undoubtedly something, as far as those which are in the direct line of passage of the current are concerned; others which are defended by angles or of indirect approach, will not be likely to be effective. Some of them will allow the air to pass, when an unusual current exists, at other times they will allow the air to pass down to supply more active currents, or fluctuate in their operation, the air rising, descending or continuing stationary as accident may determine. All these evils are augmented, as the experience of our insane hospitals has fully tested, when the flues open into the external air, as they do in your plan, instead of the attic.

A circumstance, coming yesterday to my knowledge, will illustrate the value of the system of ventilation, by flues opening at the top of rooms, with no other appendages. In some recent additions to the Brattleboro' Insane Hospital, where this system has prevailed in all former erections, the sagacious and practical head of the institution, in constructing some recent additions omitted entirely all vestiges of this arrangement. His practical observation of their uncertain, baffling, reversed action doubtless had convinced him, that they were not worth the slight expense attending their construction in the brick wall!

This mode of ventilating the Auburn prisons has been too long attempted, not to furnish experience in abundance as to its inadequateness. It is certainly better than nothing, but that is all the praise which can be justly accorded to it. Visit a prison on this construction *by day*, when the *night-buckets* have been removed, the windows and doors opened and a liberal use of whitewash is employed, and there will be no obvious depravity of the air, especially on the first story or two. Repeat your visit at *midnight*, especially in the spring or autumnal months, when windows cannot safely be left open, and when it is too warm to permit the use of fires, and between the use of those odious *night-buckets*, the exhalations from the human body, and the non-removal of the vitiated and respired air, you will be astonished that the pestilence of prisons should be so rare.

In other words, when there is no human being present to enjoy the luxury of uncontaminated air, it will be found tolerably pure; when it is inhabited, the prison is pollution.

As no provision appears to be made for workshops, (even were it legal to require or permit labor,) or for airing courts, a new and before unhazarded experiment will be necessary—that of omitting the daily chance of purification now enjoyed.

The employment of *night-buckets* in prisons is a repulsive subject for consideration, but it is an all important measure in prison discipline to meet that demand of nature for which these are expedients. Where the prison can be wholly vacated daily, these receptacles of excrement are perhaps less horrible than the use of common privies, attached to the apartments occupied by prisoners, as was the former practice, and is now the mode employed in country jails. Where the expectation is, that the prison will be occupied by day, as well as by night, it is probable that the occasional overpowering impurity of the former arrangement would scarcely be worse than the ever present annoyance of vessels for uses like these.

It fortunately happens that neither the one or the other of these evils is unavoidable. Modern prisons have for several years been fitted, in the very cells occupied for constant incarceration, with various forms of *water closets*, which are simple, cheap, and thoroughly efficacious. It has been intimated that these arrangements in the Pennsylvania prisons have not been found pure and inodorous.

A thorough investigation of one of these prisons a number of years since, that at Trenton, N. J., satisfied me that this did not necessarily exist, the atmosphere in every cell I visited, perhaps three quarters of the whole, being unexceptionably pure. In other English prisons, since examined, where these fittings exist in great quantities, and of entirely different mechanical construction from those in use with us, it was certain that there were no practical difficulties, and that the additional cost was insignificant. The whole apparatus provided for many hundred cells of the Yorkshire Houses of Correction, cost but seven shillings sterling for each cell. It was made of coarse earthen ware.

An objection has been intimated to these conveniences, that, in some particular instance and probably under an imperfect construction, prisoners by withdrawing simultaneously the portion of water in the valvular reservoir, could make a free communication with each other. It is not believed, that, practically, any difficulty has been thus experienced, as it could be at once obviated by a second D, or *stench-trap*. At all events, the existence of such an objection was negatived at all the prisons I examined in my last visit to Europe.

It has also been suggested as a possible objection to a system of water-closets, that the want of a copious supply and head of water, would render their operation impracticable. When I state, that the labor of one man two or three hours per day, forces water to the height of 50 to 60 feet, and enough to fully supply these articles for near 200 persons, and call to your mind the near proximity of the broad Atlantic to your prison site, this difficulty fades into nothing.

If asked what system of heating and ventilation I would recommend, I would reply by describing the plan pursued at the prison just mentioned, the Houses of Correction for the West Riding of Yorkshire. The system of discipline is a modification of what would be termed here the Auburn and Pennsylvania plans. Each cell is furnished with a fixed window, and indeed none of the windows are capable of being opened, as this, ordinarily a convenience, would interfere with a reliable and constant arrangement for ventilating artificially or coercively.

In the area in front of the cells, a large sized flue, probably 3 by 4 feet, extends from one end to the other. This is covered by flagging, and communicates freely with the external air by various horizontal flues. Within it, a cast iron tube for hot water departs from a central boiler in the cellar, with a calibre of four inches, increases its size at one third the distance from the boiler to six inches, and completes its course at a calibre of not less than seven or eight inches. It then turns with a short curve and is brought back to the boiler, diminishing its size in the same mode. This gradual addition of pipe of increasing diameter, makes it virtually a conical shaped pipe, the object of which is to compensate for the diminished temperature of the mass of heated water, as it proceeds from its heating furnace, by increased quantity and radiating surface. Opposite each cell, a flue passes from the principal flue in the area, and delivers air from it into the cell near the ceiling. An exhausting or suction flue for the escape of foul and respired air passes from the bottom of each cell, and ends in a large upright flue or case, lying in contact with or surrounding the main chimney of the whole establishment. At the outset the different cells are adjusted by thermometrical trials, until the entrance flue for hot air admits an equal quantity in each, and the aperture is closed by masonry or a register at that point.

Every recent public building in Great Britain is, perhaps, fitted with some ventilating apparatus, involving this principle. No matter whether the heat is produced by hot air, hot water at 212°, or water raised to 5 or 600°, or by steam, the mode of effecting the ventilation by abandoning all the uncertain and unreliable aids of open windows, flues opening externally, in the attic or on the roof, or direct apertures for admitting fresh air, and depending on a powerful upward draught artificially maintained, is deemed essential.

In the summer, by discontinuing the furnace for heating the water, or generating the steam, the air introduced is pure and cool, but equally copious and certain.

[Since arranging the preceding remarks, I learn that you have abandoned the idea of heating by stoves in the area, and that some form of steam heating is proposed. It is obvious from the allusion to this change in the printed document of the Committee on Public Buildings, that no radical changes are expected in the mode of ventilating, as "moveable windows" are spoken of as means for "ample ventilation." I can see no possibility of anything approaching a true ventilation, or equable heating, in an open area four stories in height.]

The plan published of your jail does not explain itself. I presume, however, as no preparations are made for airing courts or workshops, that it is expected that the greater proportion of the inmates will be constantly kept in their cells. On the fourth story only, do the cells appear large enough for more than a single person. If such is your plan, how does it differ from the system of *solitary confinement*, which was long since and unanimously abandoned, and the *only* trial of which in Christendom, probably, that in the early history of the Maine State Prison, resulted so disastrously? If men in prison are neither to labor nor to associate together, they MUST DIE OR GO MAD!

Were it not that the law cannot sanction the compelling prisoners merely detained, to labor, I could not but believe that the originators of this design must have some prospective plan for joint or separate labor. No person who has made the slightest examination into the history of prison discipline could have devised a system in which solitary confinement would be thought of.

I could extend my letter in regard to many other important omissions and objections in this plan, besides, the prominent points already alluded to, but those difficulties are so remediless, that others are scarcely worth pressing. I might refer to the want of any preparation for habitual personal cleanliness, such as bathing rooms, washing places, and airing courts;—the absence of proper attention to facilitate moral or educational improvement, subjects not overlooked in constructions of the same class elsewhere;—and for fulfilling the duty which society owes the unconvicted at least, of allowing them to communicate reasonably with counsel, friends and philanthropists, without compelling the latter to do their errands of mercy in cells open to the rest of the inmates by grated doors, and repulsive as their visits must be to every sense, sight, hearing and smell. Rooms with open work iron doors, small windows near the ceiling and the other prominent and ostentatious features of incarceration are dungeons above ground, where every association is depressive, exhausting, calculated to extinguish every trace of that hope, and preparation for defence which our law is continually making such pompous pretensions, that she throws around the untried prisoner. In such a prison, a commitment would involve not merely detention and safekeeping, but punishment—depressing, crushing punishment to soul and body!

There is one topic connected with your plan of such high moment, that I cannot forbear dwelling upon it at the hazard of increasing the length of this already too protracted letter. This is, that the capability of extension is entirely inadequate to the probable increase of your city. An enlightened community will not tolerate a *crowded* prison; every evil, moral and physical, increases in tenfold ratio with each new inmate after it is full. Your present design extends to eighty inmates; a wing at right angles with the others would hereafter allow an increase of forty more. At this point, your extensibility ceases, as the extremities are already as long as due service will permit. If the present extent is not much exaggerated for the present wants of your city, how can it be adequate a dozen or twenty years hence?

This is not a necessary evil, as there are well known plans which would allow augmentations to a vast extent, and yet not remove any portion from a convenient distance from a central point, plans not hypothetical or experimental, but fixed by experience. There are also in wide use, many minor conveniences to facilitate the carrying on of the daily routine of a prison, which do not appear to have been incorporated in your plan. For instance, how is the distribution of food to be carried on? There are no rooms for eating, and it cannot be supposed that a *lock-step* procession can be formed to take the food through an aperture into the kitchen, as the State Prison convicts do, on ceasing from their labor. To carry the food and remove the remains after eating to and from each individual cell, and to dispose of the *night-buckets* would require a very uneconomical amount of service. To expect the heterogeneous population, often resident for a few days or weeks, to acquire the training necessary to manage these details of the Auburn plan without disturbance and neglect, would be too extravagant. To ask some persons, like those whom experience shows not rarely to have fallen under the sad necessity of entering the walls of a jail, to join in the procession to do such disgusting offices, as I have alluded to, in company with all that is debased in our species would be an outrage not to be thought of. If it be the system of State Prison tactics which is implied in your construction as it seems to be, who shall decide who is to be exempted from its demands?

It is usually deemed the duty of an objector to a proposed plan to offer a better, on the acknowledged principle that is easier to tear down than to build,—to criticise than to create. This alternative, I conceive, would be easily met by furnishing a copy of any recently established foreign prison or house of detention, with such changes as would adapt its arrangements to the varied uses which you desire, instead of the provision for a single class of felons, or debtors, which in a division of labor in over-populated countries has been elsewhere introduced.

Let us, for example, take as a basis the *panopticon* or *radiating* ground plan, originally proposed by Jeremy Bentham, and now adopted even in insane hospitals, as well as prisons all over Europe, as supplying fully the important desideratum, that no portion is far removed from the convenience of a common centre. In a penitentiary this common centre of all the wings, forms a point of inspection from which every door of the whole establishment can be commanded by a single eye. As the inmates of your proposed jail are of so widely different characters, as to render separation and classification indispensable, let the peculiarity of the new Devon Lunatic Asylum be added, that of an interior crescent or arch, in which various essential rooms can be provided. Let each radius serve the purposes of classification; one might contain permanent convicts of the United States' courts, with whom a regular system of discipline and profitable work could be carried out; another would receive witnesses and debtors, who should be allowed windows to see the heavens and the earth (which no classes do in your plan, except those who have the right of entrance into the fourth story rooms in the jailor's house.) A third wing could be used for the colored prisoners, whose own comfort demands their being placed together, as far as the nature of their offences would permit. A fourth radius might be arranged for women and with proper separation for the young and as many divisions more as required for the common short staying prisoners detained for trial.

Each section should be arranged with a view to the classes to be accommodated in it, as respects the size of its cells, the mode of taking food, power of communicating with each other, &c. In this way, would be avoided the necessity of bringing all, however differing in crimes, sex, and age, to the same Procrustean level, as in your present scheme.

With these wide differences in detail, there should be a uniformity of essentials; that is, each cell should be provided with every means of personal cleanliness and due ventilation.

The annexed diagram will give an illustration merely, of my meaning. To pretend to present a practicable design would require more data than I possess, as to the proportionate numbers of different classes. It would not be expected that the system of classification could be carried out to that degree of exactness which might be possible in a penitentiary where long sentences were to be served out. An approach would be obviously a great desideratum.

Again, as to construction, an eye to fitness and adaptation should be maintained. It would require, in fact, a very different degree of strength in the part of a prison intended for a notorious jail breaker, a pirate or murderer, with every motive to persevere in attempts to escape, and that required for the wretched inebriate or exhausted prostitute.

For the latter, your proposed wall of cement and brick might be adequate; for the former it would be a cob-web.

It is a fortunate circumstance for those communities engaged in building institutions of this nature, that they have so abundant means of availing themselves of the research, skill and experience of other countries. The published plans, for example of the Pentonville model prison and others present us the minutest detail of construction, obviating the necessity of a vast amount of experimenting and inventing, in bringing about minor but important facilities, and enabling us to select such points as circumstances may require for our wants.

With the greatest respect,
Your most obedient servant,
LUTHER V. BELL.

Note.—The diagram referred to, has not been copied for want of time.

City Document—No. 37.

CITY OF BOSTON.

BOSTONIA
CONDITA AD.
1630.

ELECTION OF MAYOR---OPINION.

In the Board of Aldermen, October 20, 1845.

Read, laid on the table, and ordered to be printed.

Attest,

S. F. McCleary, *City Clerk.*

CITY OF BOSTON.

In the Board of Aldermen, October 13, 1845.

Ordered, That the Chairman of this Board be authorized to obtain such legal opinion upon the legality of the proceedings of this Board as now constituted, as he may deem expedient and proper.

Questions proposed under the above Order, assuming as matter of fact that a vacancy has occurred in the office of Mayor, by the resignation of the late incumbent.

First. Are the acts of the Board of Aldermen, as now constituted, legal and obligatory?

Second. Is it competent for the Chairman, for the time being, of the Board of Aldermen, to perform the duties which are imposed by law upon the office of Mayor?

Third. Is it competent for the Board of Aldermen and Common Council, in convention, to elect a Mayor to fill the vacancy—and if competent, is it obligatory on them so to do?

Fourth. Is it, considered only in a legal view, expedient to proceed under the present state of things to a new election?

In answer to the first inquiry, it is my opinion, that the acts of the Board as now constituted, so far as those acts may be within the trusts confided to the Board, are obligatory. The inhabitants of Boston constitute a body politic in fact and in name, under the denomination of the City of Boston, and as such body politic exercise all the immunities incumbent upon the town, as a municipal corporation. The duties of this body politic are performed by different boards and officers. The corporation is a public institution, designed to protect and enforce great public trusts, and as such, its acts and the acts of its officers and boards, will receive and are entitled to receive an enlarged and liberal construction in their favor. The language, in which its powers are conferred, although not to be disregarded, should be interpreted with reference to the great trusts imposed upon it, and with a view to the spirit and intention of its creation. The acts of private corporations, which are created for private purposes, are construed strictly, in opposition to the rule of construction which is applied to those of a public nature, existing only for public purposes. The rule of construction adopted in the latter class of corporations is designed to uphold and sustain public trusts. This distinction should be constantly kept in view, in determining the several questions for consideration.

This principle of interpretation and construction of the rights and duties of municipal corporations, has been uniformly regarded by the judicial tribunals. In Rumford *vs.* Wood, 13 Mass. Rep. 198, the Court, speaking in relation to towns and other municipal societies, say, "they may be considered under our institutions as *qua* corporations; with limited powers co-extensive with the duties imposed upon them by statute or usage. It will not do, therefore, to apply the strict principles of law respecting corporations, in all cases, to these aggregate bodies, which are created by statute, in this Commonwealth. In construing their acts, a liberal view should be had to the end intended to be effected."

The original act which established the body politic, provided in section ten, "that the Mayor and Aldermen shall compose one Board, and shall sit and act together as one body, over which the Mayor, if present, shall preside; but in his absence, the Board may elect a Chairman for the time being." The intention, the purpose of this provision is, that the *absence* of the Mayor shall not defeat the action of the Board, that the machinery of government shall not be disturbed. The cause of the absence of the Mayor is not, by this provision, made an ingredient, the fact of his absence authorizes the choice of a Chairman, for the time being, and an organization of the Board under the Chairman. The section then proceeds to declare, "*the said Board*" together with the Common Council, in convention, shall have power to choose a Clerk. By this provision, the Mayor and Aldermen constitute one Board, and in the absence of the Mayor, the Chairman, for the time being, and the Aldermen constitute this Board, and being so constituted, the act authorizes the Board to enter upon a discharge of its duties. The provision is not merely an authority to the Board to choose a Chairman, and after such choice, a direction to adjourn until the Mayor returns and resumes his duties, but it is, that the Board shall proceed in the same manner as it would have proceeded, had the Mayor been present.

If the Board shall thus proceed, or may thus proceed, under this organization, to act as a Board, it is a necessary result, that its acts are legal and obligatory. This provision alone sustains the position that whenever it is competent for the Board to organize under its Chairman, and it does so organize, it is competent to discharge all the trusts confided to it. The same principle is recognized by other parts of the act. The thirteenth section of the original charter provides, "that the administration of police, *together with the executive powers of the said corporation generally*, together also with all the powers heretofore vested in the Selectmen of the town of Boston, either by the general laws of this Commonwealth, by particular laws relative to the powers and duties of said Selectmen, or by the usages, votes or by the laws of said town, shall be and hereby are vested in the Mayor and Aldermen *as hereby constituted*, as fully and amply as if the same were herein specially enumerated." No one can doubt, that the Board here spoken of, can discharge the duties described in this section. What Board is it, which is described in the section, as the *one hereby constituted?* the section itself is silent, resort must, therefore, be had to some other part of the act, and that is to the tenth section, which constitutes the Board and points out, if I may so say, its material—its constituent parts. In the last named section, as already stated, the Mayor, or in his absence, the Chairman for the time being, is made a part of the Board. The fourteenth section provides that the Mayor and Aldermen may grant licenses in certain cases. The fifteenth section provides that the Mayor and Aldermen and Common Council, by concurrent vote, may adopt by-laws and assess taxes. The Mayor and Aldermen referred to in these two sections are spoken of as a Board. The provision in the fourteenth section is not, that the Mayor and the Aldermen acting separately, but the Mayor in conjunction with the Aldermen, as an independent Board, may grant a license —and they are so designated in other parts of the charter. There can be no reason to doubt, that the Board thus referred to, is the one constituted as provided in the tenth section, which may comprise as a constituent part thereof, either the Mayor, or in his absence, the Chairman, for the time being, as the case may be.

I have thus shortly stated the course of reasoning, derived from the charter, which induces my opinion, that the acts of the Board, known and designated as the Board of Aldermen, must be regarded as legal, assuming the acts are such as have been delegated to the Board, whether the Chairman, for the time being, or the Mayor constitute a part of it. The principle which I have endeavored to exhibit is recognized in an act, additional to the charter, passed June 5th, 1830, entitled an act to provide for the election of Mayor in certain cases. The second section of this act provides, "that in case of the unavoidable absence by sickness, or otherwise, of the Mayor elect, on the first Monday in January, the City Government shall organize itself in the mode hereinbefore provided, and may proceed in the same manner as if the Mayor were present." This is a distinct provision, that the Board of Aldermen, in the emergency contemplated and designed to be guarded against, may organize and proceed to a discharge of its appropriate duties. Such organization of the Board can only be by the choice of a Chairman, and when so organized the City Government, of which the Board of Aldermen is a constituent part, may proceed to business in the same manner as if the Mayor were present. It may be said, this is the case, where an election of Mayor has been had, followed by an inability on his part to attend for the purpose of being qualified. So it may be said in relation to the emergency spoken of in the fifth section of the charter, that it provides merely for a temporary absence of the Mayor, and that the present emergency is of a different and more permanent character. This in my judgment may be regarded as amounting to mere talk and quibble. The purpose of these provisions is, that the machinery of government shall not be thrown from its track,—the principle is, that the public trust reposed in our Municipal Corporation shall not be defeated, but upheld. The absence spoken of, is an absence of the Mayor, not from the City, the City Hall, or the room of the Mayor and Aldermen, but an absence from his office, an inability to discharge the duties of the office. Admitting, that *the Board of Aldermen*, when constituted with a Chairman, instead of the Mayor, can do all acts required of the Board, your second inquiry is presented, as to the power of the Chairman, for the time being to do acts confided to the office of Mayor. That he can do all such acts, as well fiscal as others, in the emergency which has occurred, and that his acts are binding upon the body politic, I have no doubt. I submit some of the considerations upon which the opinion expressed is founded. It already appears that the Board of Aldermen may act, without the Mayor, during his absence from, or his inability to perform, the duties of his office, and that their Chairman, for the time being, may at its sessions, act in place of the Mayor. Is the power of the Chairman limited to the time during which the Board is in session, or does it continue after its adjournment, and during the absence of the Mayor from his office, in other words during his absence from, and inability to perform the trusts confided to the office. The law which authorises a Chairman to be elected to take the place of the Mayor, and to act in his place in certain designated instances, no where restricts his authority, does not in terms profess to limit it. The inference which reasonably results from such neglect to prescribe and limit his authority is, that his duties and powers are co-extensive with the legal exigencies of the station or place to which he has been substituted. The object to be accomplished by the choice of a Chairman is, that the machinery of government may not be arrested in its progress. Of what avail is this arrangement, and how is the machinery to be kept in motion, if the power of the Chairman ceases the moment the Board may adjourn, although the absence of the Mayor, or his inability may continue. If it extends only to the time during which the Board is in session, the acts of the Chairman, if he has performed any, during the recent sickness of the late Mayor cannot be sustained, except so far as they have been performed at a regular session. So at the present time, assuming a vacancy to exist, if the power of the Chairman ceases the moment the Board adjourns, the consequence might be disastrous to the public interest. It is true that consequences are not generally to be regarded in the construction of laws, which are clear, but in construing the powers of municipal corporations, which exist only for public purposes, consequences may and should be regarded to some extent. The purpose to be accomplished, the public trust which is to be sustained may well be considered, in any construction which may be given in matters connected with public trusts. I do not, however, put my opinion upon any supposed consequences which may result frem a different view of the subject from that which I have taken. The thirteenth section of the Charter, to which I have already referred, devolves upon the Mayor and Aldermen the executive powers of the Corporation generally. It may well be said, that this provision devolves these powers upon them, *as a Board*, in those cases where they appertain to the Board, and *upon them severally*, independent the one of the other, where the duty to be performed requires an *independent action*. If this be so, the duties of Mayor, in his absence, or during his inability, must devolve upon the Chairman. The twenty-first Section of the Charter provides, "that in all cases in which appointments to office are directed to be made by the Mayor and Aldermen, the Mayor shall have the exclusive power of nomination. This refers to the Board constituted as provided in the tenth section—that the Board thus organized may make appointments will not be questioned,—it necessarily results, therefore, that the Chairman in the absence of the Mayor may nominate to office. That he is not in this instance merely a presiding officer, but exercises the functions which belong to the office of Mayor. The Chairman is chosen in the absence of the Mayor for *the time being*. This time being in my view, is co-extensive with the absence, be it more or less, it is during the inability of the Mayor to discharge his duties. That these words, as used in the fifth section of the charter, import the meaning which I have ascribed to them, a slight examination will show. These words are used in the act passed 5th June, 1830, section second, with the same import, and if they mean in the tenth section of the charter the same, as they do in the other instances in which they are used, no reason is perceived to doubt the authority of the Chairman to discharge the duties appertaining to the office of Mayor. The principle upon which I rely is recognised by the act of March 25, 1845, the fourth section of which provides that the Chairman, in the case of non-election of Mayor, shall perform all his duties until one shall be chosen. I have thus referred to several provisions in which the law by its terms or by necessary implication, provides that the Chairman may perform the duties of Mayor in certain contingencies. When there is no election of Mayor, the Chairman may act in his stead—so when an election has been had, and the person elected has not been qualified, the Chairman may act in his place—at all meetings of the Board, in the absence of the Mayor, he may discharge the functions of the office. I perceive no principle, find no provision of law which prohibits his action where a vacancy occurs by resignation. The fifth section of the charter provides for an election of Mayor in certain cases, provided the several Boards think it expedient to make one; if they do not think expedient to make a choice, this evidently leaves the duties of Mayor to be performed by the Chairman.

So far, my consideration of the subject has been without reference to the City Ordinance passed in February, 1845, vesting in the Chairman the duties of Mayor to a certain extent. This is merely in affirmance of the law. The City Council cannot give a Chairman any authority as Mayor which the law does not confide to him.

In answer to the first part of your third inquiry, I have no hesitancy in saying, that the fifth section of the charter, assuming it is now in force, authorizes the City Council, when a vacancy occurs to make an election to fill it, after the several Boards shall have determined that a vacancy has occurred and that it is expedient to fill it. The section to which I have alluded does not say in words, that the City Council, in every case when a vacancy occurs shall make an election, if in their discretion one is expedient..

It says, in case of the death, inability, or absence of the Mayor. As I have before said, words are not the only things to be regarded—the plain purpose of this provision, the principle which dictated it is, that the City Council shall make an election when a vacancy occurs, if in the opinion of thes everal Boards it is expedient so to do, without reference to the cause which produced the vacancy. The distinct inclination of my mind is, that this provision has not been controled by subsequent legislation, although considerable argument might be adduced to show that it may be considered as repealed. The act of March 25, 1845, provides, in the first section, for an election of Mayor and other officers. The second section relates to vacancies, and provides, " whenever it shall appear to the Mayor and Aldermen that there is a vacancy in either the Board of Aldermen, or in the Common Council, or in any of the *City* or Ward offices, it shall be the duty of the *Mayor* and Aldermen to issue their warrant for elections, in due form, to fill *all* such vacancies in each and all of the said Boards and *offices*, at such time and place as in their judgment may be deemed advisable." The office of Mayor is most certainly a *City office*, and as such may be embraced in the above language. I do not suppose that this provision was designed by the law maker to operate as a repeal of the provision cited from the fifth section of the charter, although I perceive many things might be urged in favor of such construction. To the inquiry whether it is obligatory upon the several Boards, as a matter of course, to elect a Mayor at the present time, assuming a vacancy to exist, I answer, in my opinion, that it is not. A discretion, as to the expediency of an election is reposed in the several Boards, which discretion they are bound to exercise in accordance with their judgment, having reference to all the circumstances bearing upon the subject. A vacancy occurring within the first month of the municipal year, might render an election expedient, when a similar vacancy during the last month might render such election inexpedient.

In this connection I may observe, that the fact of such discretion being reposed in the Boards, as to the expediency of an election, is to my mind strong proof that the law maker has reposed in the Chairman for the time being, the performance of the duties of Mayor, if the Boards think an election inexpedient, otherwise the duties of the office must go unperformed.

To the fourth inquiry, considered only in a legal point of view, I answer, in my opinion, it is inexpedient to make an election. This opinion is based upon two considerations, the one, if I am correct in supposing that it is competent for the City Government as now constituted to perform all the functions required of the body politic, a new election may result in doubts which cannot now arise. The other, that the ordinance of March 25, 1845, taken in its most restricted sense, in connection with the charter and acts in addition thereto, undoubtedly confers upon the Chairman authority to do all acts required to be done. The charter and acts most clearly authorize the Chairman to perform certain duties, if not all, and the ordinance authorizes him to perform certain duties, and I have not discovered any duties to be performed, which are not embraced, upon rigid principles of construction, in the one or the other source of his authority.

The result at which I have arrived is, that the acts of the Board of Aldermen as now constituted, are valid and obligatory. That it is competent for the Chairman of the Board of Aldermen, without reference to the ordinance of 1845, to perform all the duties which belong to the office of Mayor. That the City Council may make an election, if they think it expedient so to do, although there is fair ground of argument upon which to say, that this authority does not now exist in the City Council. That in a legal point of view it is not expedient to have an election.

C. B. GOODRICH.

October 20, 1845.

City Document—No. 38.

CITY OF BOSTON.

ELECTION OF MAYOR.

OPINION OF HON. RICHARD FLETCHER.

In Common Council, October 23, 1845.

Read, laid on the table, and ordered to be printed.

Attest,

W. P. Gregg, *Clerk C. C.*

Hon. Richard Fletcher,

Dear Sir,

I have the honor to enclose for your consideration, copies of two orders which have been adopted by the Common Council of this City, and to request your opinion upon the questions therein proposed.

Very respectfully,
Your ob't serv't,
PELEG W. CHANDLER,
President of the Common Council.

Boston, Oct. 17, 1845.

CITY OF BOSTON.

In Common Council, October 16, 1845.

Ordered, That the President of the Common Council be requested to take the opinion of Richard Fletcher, Esq., the acting City Solicitor, on the following questions:—

Whether the two branches of the City Council, under the existing circumstances, have not authority, and whether it is not their duty, to meet in Convention and elect a Mayor pro tempore.

Whether there is any person, who can legally exercise the functions, and discharge the duties, of Mayor of the City, until such election.

Attest,
W. P. Gregg, *Clerk C. C.*

CITY OF BOSTON.

In Common Council, Oct. 16, 1845.

Ordered, That the President of the Board be requested to obtain the opinion of the Hon. Richard Fletcher, acting Solicitor of the City of Boston, upon the following question:

Whether it would be legal for the two Branches of the City Council under its present organization to meet in Convention to determine the number of Representatives to be elected to represent the City in the next Legislature.

Attest,

W. P. Gregg, *Clerk C. C.*

Boston, Oct. 23, 1845.

P. W. Chandler, Esq.,
President of the Common Council,

Sir,

I have the honor herewith to submit to you, agreeably to your request, my opinion on the questions proposed to me in pursuance of the orders of the Common Council.

With great respect,
Your ob't serv't,

RICHARD FLETCHER.

The President of the Common Council of the City of Boston, in pursuance of certain orders adopted by that body, has requested my opinion upon the following questions:—

1. *Whether the two branches of the City Council, under the existing circumstances, have not authority, and whether it is not their duty, to meet in convention and elect a Mayor pro tempore.*

2. *Whether there is any person, who can legally exercise the functions, and discharge the duties, of Mayor of the City, until such election.*

3. *Whether it would be legal for the two branches of the City Council, under its present organization, to meet in Convention, to determine the number of Representatives to be elected to represent the City in the next Legislature.*

The particular circumstances referred to, I understand to be the following:—

The Honorable Thomas A. Davis was duly chosen Mayor for the current year. He accepted the office, was duly qualified, and entered upon and continued in, the regular discharge of its duties, up to the first day of the present month of October. On that day he addressed a letter to Benson Leavitt, Esq., Chairman of the Board of Aldermen, in which he states his loss of health and consequent inability to discharge the duties of his office, and says, "Under these circumstances it is a duty which I owe to the City as well as myself, to resign the office of Mayor. In doing so, allow me to express my grateful feelings to the members of the Board of Aldermen," &c.

The proceedings in regard to this letter appear by the following records of the two Boards.

"*In the Board of Aldermen, Oct.* 6, 1845.

Read, and the resignation of the Mayor was accepted.

Sent down for concurrence.

BENSON LEAVITT,
Chairman pro tem."

"*In Common Council, Oct.* 9, 1845.

Laid on the table, having been read."

These, so far as I am informed, are the material facts and circumstances in the case.

Before answering the particular questions proposed, it is necessary to consider, whether the Aldermen and Common Council can exercise the functions of a government of the City, when there is no Mayor, that office being vacant; and in the next place, whether at the present time, under the existing facts and circumstances, the office of Mayor is, or is not, vacant.

By the City Charter, first section, it is enacted: "And the administration of all the fiscal, prudential, and municipal concerns of said city, with the conduct and government thereof, shall be vested in one principal officer, to be styled the Mayor, one select council, consisting of eight persons, to be denominated the Board of Aldermen, and one more numerous council, to consist of forty-eight persons, to be denominated the Common Council."

By the tenth section, it is enacted—"That the Mayor and Aldermen, thus chosen and qualified, shall compose one Board, and shall sit and act together as one body, at all meetings, of which the Mayor, if present, shall preside."

By the twelfth section—"That the Mayor of said City, thus chosen and qualified, shall be taken and deemed to be the chief executive officer of said Corporation."

By the thirteenth section—"That the administration of police, together with the executive powers of said Corporation generally, &c., shall be and hereby are vested in the Mayor and Aldermen, as hereby constituted, as fully and amply as if the same were herein specially enumerated."

In view of the various enactments and provisions of the Charter, it appears to me, that the Mayor constitutes a distinct and integral part of the City Government, and that without this part, the government is incomplete. The government is vested in the Mayor, Aldermen, and Common Council, and if either of these several parts be wanting, there is not a government according to the Charter.

Beside, the Aldermen cannot be legally organized as a Board, without a Mayor, the Charter having expressly provided, "That the Mayor and Aldermen, thus chosen and qualified, shall compose one Board."

It is not necessary, by the Charter, that the Mayor should be present at every meeting, but he must be a part of the Board, or that Board is not so constituted, that it can legally act. The Board of Aldermen can no more be organized and act, without a Mayor, than a City Council could be organized and act, without a Board of Mayor and Aldermen. The City Council is composed of the Board of Mayor and Aldermen and Common Council in their joint capacity, and there can be no such joint capacity if either Board be wanting. The Mayor and Aldermen jointly form one Board, but this joint Board cannot be formed or exist, if there be no Mayor, any better, than if there were no Aldermen. There must be both a Mayor and Aldermen, or the Board of Mayor and Aldermen is not legally formed and cannot legally act. It is not necessary by the Charter, as I have before said, that the Mayor should be present at each meeting, but there must be a Mayor. There are many analagous cases, which might be referred to in support of these views, but they are clearly enough sustained, as it appears to me, by the Charter itself.

By the Charter, therefore, and I have thus far founded my remarks exclusively upon the provisions of that instrument, if the office of Mayor be vacant, the Board of Mayor and Aldermen is not so constituted as to be able legally to act as a branch of the government, and the Aldermen and Common Council cannot rightfully, and legally, exercise the functions of the government of the City. Acting upon these views, as it would appear, the Legislature has, since the adoption of the Charter, made provision, by particular statutes, for organizing the Board of Aldermen and Common Council, in particular and specified cases, when the office of Mayor is vacant. These particular cases are, when there shall be a failure to elect at the annual election, when the person elected refuses to accept the office, and in the case of the unavoidable absence of the

Mayor elect, on the first Monday in January, when a new City Government is organized. The power to elect a Mayor, for the time being, according to the provision of the fifth section of the Charter, depends, of course, upon that particular and express provision. Cases not falling within these particular provisions, must be determined upon the general provisions of the Charter. The question now under consideration must be determined upon the provisions of the Charter, and if by those provisions the Aldermen and Common Council cannot organize and act, when the office of Mayor is vacant, it becomes necessary to consider, whether that office, at the present time, is, or is not, vacant. It is certain that Mr. Davis was duly chosen Mayor for the current year, that he accepted the office, was qualified by taking the oath prescribed, and entered upon, and discharged, the duties of the office; and he is still the Mayor, unless the office has been, by some legal means, vacated. Unless what has occurred amounts to a legal and complete resignation of the office, then, I suppose, there can be no question that Mr. Davis is still the Mayor. I do not understand that any thing has been done, unless there has been a complete resignation, to produce a vacancy. Mr. Davis does not in direct, and express terms, resign the office; still I understand, from the whole letter, that it was his intention, so far as it could be done, by his own individual act, to resign his office.

But the question at once arises, can he, having engaged to perform the duties of Mayor for a specified term, within that period, by his own individual act, discharge himself from the obligation, which he has thus voluntarily assumed. I speak wholly with reference to the general principle, having a perfect conviction of the entire correctness and propriety of the motives of the Mayor in tendering his resignation under existing circumstances. I believe it to be well settled, by decisions at common law in England, that a resignation of an office is not complete, until it has been duly and properly accepted. It seems also to have been decided that an Alderman who had sent a letter of resignation might revoke it before his place was supplied.

The principle, that resignation can only be perfected by acceptance, also prevails in the Ecclesiastical Law of England. The English cases, illustrating this subject, were reviewed at length by the Supreme Court of New York, in the recent case of Van Orsdall vs. Hazard, 3 Hill, 243; and it is assumed by that Court as a settled principle, that assent or acceptance *is* necessary to perfect a resignation. I do not deem it needful to go into a discussion of this principle. It is, surely, a very familiar and reasonable principle, that an agreement made between two parties cannot be dissolved, by the act of one, without the consent of the other. In the present instance, there has been no acceptance of the resignation of the Mayor. The act of the Board of Aldermen, not having been concurred in, by the Common Council, is merely an inchoate, incomplete act.

But irrespective of this general principle, it appears to me, that the Charter itself, very distinctly and intelligibly, negatives the position, that the Mayor has a right to resign his office. By the fifth section of the Charter, provision is made for the contingencies of the "death, inability, or absence of the Mayor." It was undoubtedly the intention of the framers of the Charter, in this section, to provide for all contingencies, that could arise, which would require measures to supply the place of the Mayor. The contingency of a resignation could not have escaped their notice and consideration. By making no provision for that contingency, it seems to me, it must have been deliberately intended to exclude the idea of a right to resign. The framers of the Charter have, as I think, in effect said, the office of Mayor is but for one year; any one who accepts it, shall have no right to abandon his engagement before the expiration of that short period, and thus subject the City to the inconvenience and embarrassments of a vacancy in that important office. But for the cases of the "death, inability, or absence of the Mayor," ample provision is made. If the Charter intended to exclude the idea of a right to resign, it necessarily excludes the idea of a right in any body or bodies, to accept a resignation. It appears to me, therefore, that regarding general principles, and the spirit and provisions of the Charter of the City, the office of Mayor has not been legally vacated, but that the Mayor would have a perfect right to-day, if his health would permit, to take his place in the Board of Mayor and Aldermen and resume the duties of his office.

Whether, notwithstanding the clear intention of the framers of the Charter to make no provision for a case of resignation, there may not still be a common-law right in the Mayor to resign his office, if his resignation be duly accepted, it is not necessary now to consider, since there has been no such acceptance.

Having thus prepared the way, I will now answer the particular questions proposed to me.

The first question is, "Whether the two branches of the City Council, under existing circumstances, have not authority, and whether it is not their duty, to meet in Convention, and elect a Mayor pro tempore." By the fifth section of the City Charter it is provided as follows: "And in case of the decease, inability, or absence of the Mayor, and the same being declared, and a vote passed by the Aldermen and Common Council respectively declaring such cause, and the expediency of electing a Mayor, for the time being, to supply the vacancy thus occasioned, it shall be lawful for the Aldermen and Common Council to meet in convention, and elect a Mayor to hold the said office until such occasion shall be removed, or until a new election." The Mayor has himself declared his "inability," by reason of severe indisposition, to perform the duties of his office, and it is matter of regret, that such is the undoubted fact. The case then comes clearly and precisely within the foregoing provision of the Charter. The Aldermen and Common Council, therefore, by passing a vote respectively, declaring such cause, and the expediency of electing a Mayor for the time being, according to the above provision, might, without a particle of doubt, lawfully meet in convention, and elect a Mayor to hold said office until such occasion shall be removed, or until a new election.

But it is further asked, whether it is not the duty of the Aldermen and Common Council to meet in Convention and elect a Mayor pro tempore. The provision of the Charter is not imperative. It authorises the Aldermen and Common Council to meet in Convention and elect a Mayor, but leaves the expediency of so doing to be determined by them respectively, according to their own discretion. In legal contemplation, therefore, this course is not enjoined as a legal obligation or duty. The framers of the Charter, however, must, of course, have assumed, in leaving the Aldermen and Common Council to elect or not elect a Mayor, for the time being, according to their discretion, that their discretion would be fairly and uprightly exercised, under the sanction of their official oaths, and with a sense of their high moral obligation to act with a sole reference to the great interests and safety of the City.

The next question proposed is "Whether there is any person who can legally exercise the functions, and discharge the duties of Mayor, until such election." By a general law of the last session of the Legislature, applying to all cities, it is provided "In case of the non-election of a Mayor, the Chairman of the Board of Aldermen shall discharge all the duties incumbent on the Mayor of the City, &c." This provision is in terms confined to a non-election, at the annual election, to which the whole act refers, and so has no bearing on the present case. By the Charter of the City of Boston it is provided, that in the absence of the Mayor, at a meeting of the Board of Mayor and Aldermen, "the Board may elect a Chairman for the time being." Such election can give to the Chairman only such powers and duties, as belong to him, as presiding officer for the time being. There is no other law, to my knowledge, authorizing the Chairman, or any other person, to perform any other of the duties of the Mayor. The Legislature has conferred certain powers exclusively on the Mayor, and has required certain duties to be performed by him alone, and these powers cannot, of course, be legally exercised, or these duties legally performed by any other person. In regard to this question, therefore, I answer, that I am clearly and decidedly of opinion, that there is now no person, who can legally exercise the functions, and discharge the duties of Mayor of the City, but the Mayor himself, and if he be unable to perform these duties, they must remain unperformed, by any person having legal and rightful authority to perform them, till an election is made for the time being, by a convention, according to the provision of the fifth section of the Charter, or until a new election by the people. There being no vacancy in the office of Mayor, the Ordinance of the City passed February 7, 1845, providing for the discharge of the duties of Mayor in certain cases, has obviously no application to the present inquiry.

The next question proposed is, whether it would be legal for the two branches of the City Council, under their present organization, to meet in Convention, to determine the number of Representatives to be elected, to represent the City in the next Legislature. The provision in the Charter on this subject is as follows, "That it shall be the duty of the two branches of the City Council, in the month of October in each year, after their annual organization, to meet in Convention, and determine the number of Representatives, which it may be expedient for the Corporation to send to the General Court in such year, within its constitutional limits, and to publish such determination, which shall be conclusive." The two branches, here referred to, are the Board of Mayor and Aldermen and Common Council, and if I supposed, that there was no Mayor, and that that office was vacant, I should be fully of opinion, for the reasons before stated, that the two branches were not legally constituted, so as to be able to meet in Convention under this provision of the Charter. But believing as I do, that the office of Mayor is not vacant, and that, of course, the branches of the City Council are now legally constituted and organized, and the personal attendance of the Mayor not being required, I am of opinion that it would be legal for the two branches of the City Council, under their present organization, to meet in Convention to determine the number of Representatives, according to the Charter.

The views here expressed might be much more fully developed and illustrated, but I have endeavored merely to make intelligible such opinions, as I have been able to form, on the grave and important questions submitted to me, in the time which I have had to consider them.

RICHARD FLETCHER.

Boston, October 23, 1845.

City Document.—No. 39.

CITY OF BOSTON.

BOSTONIA
CONDITA A.D.
1630.

REPORT

ON THE TREASURY DEPARTMENT.

CITY OF BOSTON.

The Joint Standing Committee of the City Council, on the Treasury Department, respectfully report to the City Council that they have made a careful examination of the accounts of the City and County Treasurer and Collector, from the first day of May, the commencement of the current financial year, to the first day of October, instant. The Committee find the accounts of that officer accurately kept—the moneys received by him, in behalf of the City, fully accounted for—and his receipts and payments duly vouched, except in the respect which is hereafter spoken of in this Report.

Within the periods above mentioned, the Treasurer has made the following payments, namely :—

On *general drafts*—some of which are signed by Thomas A. Davis, Mayor—and others by Benson Leavitt, Chairman pro tempore, - -	236,206	06
On *special drafts*—signed as above, -	122,016	50
On account of Militia, - - -	68	50
For Interest due from the City, -	26,580	59
On account of Firemen, - - -	1	50
On account of Hayweighing, - -	125	00
On account of witnesses, jurors, &c. -	16,386	67
On account of Board of Accounts, -	69	00
Balance of Jail accounts, - - -	901	75
Making the whole amount paid out by the City Treasurer, from May 1st to September 30th, 1845, - - -	402,355	57

Within the same time, the Treasurer credits the City and County with the following sums, namely :—

Balance in the City Treasury, at the commencement of the financial year, May 1st, 1845,	130,872	56
Received on account of Public Lands,	14,584	30
On account of Burial Fees, - -	853	70
“ “ Sewers and Drains, -	1,897	99
“ “ Sidewalks, - -	139	46
“ “ Bonds and Notes, -	23,606	34
“ “ Interest due the City, -	4,929	08
“ “ Rents due the City, -	20,955	17
Amount carried forward,	197,838	60

Amount brought forward,	197,838	60
On account of Alien Passengers,	7,263	47
“ “ Temporary Loans,	133,514	87
“ “ House of Correction,	1,879	78
“ “ House of Industry,	1,118	17
“ “ Hayweigher's Fees,	275	24
“ “ Fees from City Clerk,	397	55
Amount received from the Auditor,	2,600	00
On account of Fines and Costs,	5,186	43
“ “ Taxes,	36,203	88
“ “ Fire Department,	15	00
Of Commonwealth, for School Fund,	3,055	64
Making the whole amount of Receipts at the City Treasury, from May 1st, to September 30th, 1845,	389,348	63

By the foregoing statement, it appears that there has been paid out from the Treasury, within the time specified, the sum of	402,355	57
And that there has been received, within the same period, the sum of	389,348	63
Leaving a balance against the City, of	13,006	94

This balance was placed in the following form:—

Amount due to the Merchants Bank,	13,907	17
Amount of money on hand, in the Treasury office,	900	23
Leaving the balance against the City, as above stated,	13,006	94

Since the day to which the accounts were made made up and examined, considerable sums have been paid into the Treasury for taxes, and the balance then due to the Bank has been paid and settled.

The Committee deem it their duty to state to the Council, that the financial affairs of the City are, at present, in a very singular and unwonted position, owing to the existence of the fact that there is now no person present in the City Government, who has authority, by the laws of this Commonwealth, or the Ordinances of the City, to draw drafts on the City Treasurer, or whose drafts he feels at liberty to honor.

The Committee find, in looking over the drafts drawn upon the Treasurer, within this financial year, that a portion of them have been drawn by Thomas A. Davis, Mayor, and a portion by Benson Leavitt, Chairman pro tempore. To the latter signature, there is nothing to show of what the individual is Chairman—whether of the Board of Aldermen, or of some Committee of the City Council.

The Treasurer states to the Committee, that, when doubts arose upon the question whether the individual acting as Chairman of the Board of Aldermen could, legally, perform the duties and exercise the authority of Mayor of the City, he thought it a duty which the responsibilities of his office devolved upon him, to take measures to ascertain whether he should be safe in paying out the moneys of the City, on drafts drawn upon him by an individual signing himself Chairman pro tempore of the Board of Aldermen. This he was advised that he could not safely do—and so, on the sixteenth of October instant, he refused to pay any drafts other than such as remained unpaid, of those which had been already drawn by Thomas A. Davis, Mayor. He did pay, however, in two pressing cases—in one instance, on the 17th instant, the sum of $3,000,—and, in the other, on the 18th instant, the sum of 900,—in both of which cases he took security for the repayment of the amounts, in case the disbursements should not, subsequently, be duly authorised.

The Committee have thus stated to the Council the disagreeable position in which the Treasury department is now placed. They have no fault to find with the Treasurer, for his refusal to pay drafts drawn by the acting Chairman of the Board of Aldermen—when, in the opinion of all the members of this Committee present at the meeting at which this subject was considered, no authority is vested in that individual to draw moneys from the City Treasury. A due regard to his own pecuniary liability, and that of his friends who are sureties on his Bond, seemed to require that he should refuse to disburse the funds of the City, upon an assumed authority, which was denied by a large majority of one branch of the City Council, by one half the number of members of the other branch, and by distinguished legal counsel who had been consulted by himself and others. The Committee have, therefore, passed a vote of approval and sanction of the course pursued by the City Treasurer, and have advised him not to pay out any moneys, except upon the drafts of persons and officers who shall be satisfactorily ascertained to have authority to draw upon the funds of the City.

The Committee cannot conclude, without expressing their sincere regret that any circumstances should have occurred to interrupt the scrupulous punctuality with which our City has always met its pecuniary engagements. Our City Government has become proverbial for the promptitude with which its payments are made—and, on that account it is, partly, that no securities, bearing the same rate of interest, stand higher than its Stock does, in the money market. It is mortifying, in the extreme, that those who have fair, honest, and regularly authenticated demands against the City, should be unable to obtain their just dues. The Committee cannot but entertain the hope that the existing obstacles will, ere long, be removed—that some officer, having authority, under the laws and ordinances, to exercise a control over the public moneys, will be appointed—and that the business of our Municipal Government will resume its ordinary and accustomed channels.

All which is respectfully submitted.

WILLIAM POPE,
WILLIAM HAYDEN,
CHARLES BOARDMAN,
Committee on the Treasury Department.

October 25th, 1845.

In Common Council, October 30, 1845.

Read, accepted, and ordered to be printed.
Sent up for concurrence.

P. W. CHANDLER, *President.*

In the Board of Aldermen, November 3, 1845.

Read and concurred.

BENSON LEAVITT,
Chairman pro tempore.

City Document.—No. 40.

CITY OF BOSTON.

REPORT

OF THE

JOINT STANDING COMMITTEE

ON

WATER.

November 24, 1845.

The Joint Standing Committee on Water, to whom was referred a communication from James C. Odiorne, George Odiorne, and Thomas Odiorne, proprietors of Spot Pond, proposing to sell said Pond to the City, and to surrender a charter, held by them, granting the privilege of conducting the waters of the same into the City for distribution; —and to whom was also referred various petitions in favor of, and others against, accepting said proposition; and also the petition of Samuel T. Armstrong and others, praying the City to subscribe for one-third part of the stock of the Spot Pond Corporation, beg leave to

REPORT:

That, immediately after the reference of these subjects, the Committee, for the purpose of arriving at a proper conclusion, asked of the City Council, full powers in the premises. This request was granted, in the following order, passed by both Boards of the City Council.

"*Ordered*, That the Joint Standing Committee on Water, be authorised and instructed to take such measures as, in their judgment, may be necessary to enable the City Government to decide as to the expediency of accepting the proposition of the proprietors of Spot Pond, to sell said Pond to the City, for the distribution of its water therein."

This order was adopted by the Board of Aldermen, June 9th, and on the 12th of the same month, the Committee held their first meeting. After a full and free discussion of the subjects referred to them, the Committee unanimously adopted, as the basis of future action, the subjoined resolutions, viz:—

"*Resolved*, That, to enable the Committee to make a clear and satisfactory report upon the various subjects referred to them for consideration, it is expedient to act upon the following propositions.

1st. How much water is it desirable to introduce into the City, for distribution, from a foreign source?

2nd. To ascertain the daily flow of water, in gallons, at the outlets of Spot and Long Ponds, and over the dam of Charles River at Watertown, during the months of July, August and September next.

3rd. How much will be the probable cost of introducing the waters of Spot Pond, Long Pond, and Charles River, respectively, into the City, and delivering the same into suitable reservoirs for distribution?

Resolved, That, for the purposes of the foregoing resolution, it is expedient to appoint two impartial Engineers from abroad, to carry the same into effect, and report thereupon."

Immediately upon the passage of these resolutions, measures were taken by the Committee, to obtain competent men from abroad, to act as Commissioners and Engineers in carrying forward the proposed investigations; and they succeeded in securing the services of John B. Jervis, Esq., Chief Engineer of the Croton Waterworks, New York, and Professor Walter R. Johnson, of Philadelphia. These gentlemen entered upon their duties in the latter part of June, and have continued them to the present time.

The first proposition which came before the Committee, and the principal one upon which their action was based, was that of the proprietors of Spot Pond, to sell said Pond to the City for the sum of sixty thousand dollars ($60,000) and surrender a charter, held by them, authorising the introduction of the waters of the same into the City for distribution.

The Committee did not feel competent, with the information then in their possession, to decide upon a question of so much importance; and accordingly, after obtaining the necessary powers, they instituted an examination in order to determine, as nearly as possible, the comparative cost of introducing the waters of said Spot Pond, of Long Pond, and of Charles River, so that a satisfactory conclusion upon the whole subject might be arrived at.

The next topic referred, was the petition of Samuel T. Armstrong and others, to have the City subscribe for one-third part of the stock of the Spot Pond Corporation. The Committee, to come at a proper conclusion in respect to this proposition, found the same examination necessary as in the case already mentioned. They thought it expedient, therefore, to delay its consideration until the results of the investigation should be known. The Commissioners were clothed with full powers to make such examinations as they might deem necessary to enable them to make a satisfactory and reliable report; and they were requested, after the termination of their labors, to express, in the conclusion of their report, an opinion as to the most eligible source to which the City could resort for a full supply of pure and wholesome water.

The Commissioners have concluded their labors, and the results have been submitted in a report to your Committee. In view of the facts ascertained by the investigations of the Commissioners, the Committee are induced, after a full consideration of the subject, to recommend that the City Government reject the proposition of the proprietors of Spot Pond, to sell said pond to the City.

These facts are substantially as follows :—

1st. That Spot Pond does not now, and will not hereafter—by any plan which can be adopted—furnish a sufficient daily supply of water for the present population of Boston.

2nd. That the cost of introducing into, and distributing throughout the City, the 1,500,000 gallons—the average daily supply of water from Spot Pond—is so great, compared with that of introducing 7,500,000 gallons, per day, from Long Pond—that the latter is considered the more desirable source.

The Committee do not now propose, to discuss these points—but they would refer the Council to the able report of the Commissioners, for the arguments and reasons sustaining the conclusions at which they have arrived.

In relation to the petition of Samuel T. Armstrong and others, that the City will subscribe for one-third part of the stock of the Spot Pond Corporation, the Committee urge the same reasons against complying therewith, which induce them to recommend the rejection of the proposition to purchase said Pond—with this additional reason, viz. :—That it is inexpedient, in their opinion, for the City to engage in any enterprise as a partner in a joint stock company. And especially in an undertaking of so much importance, as that of furnishing a supply of pure water to its citizens, it should, in its own corporate capacity, accomplish the work.

In justice to their own feelings, the Committee cannot close this report without bearing testimony to the competent manner in which the Commissioners, Messrs. Jervis and Johnson, have discharged the arduous duties assigned to them.

The Committee, in conclusion, recommend the adoption of the resolutions hereto annexed.

WILLIAM POPE,
SAMUEL S. PERKINS,
LORING NORCROSS,
JAMES WHITING,
THOMAS B. CURTIS,
JOSEPH BRADLEE,
JAMES HAYWARD.

Resolved, That it is inexpedient to accept the proposition of the proprietors of Spot Pond, to sell said pond to the City, for the distribution of its waters therein.

Resolved, That it is inexpedient to comply with the proposition of Samuel T. Armstrong and others, that the City subscribe to one-third part of the stock of the Spot Pond Corporation.

REPORT

OF THE

COMMISSIONERS

APPOINTED BY AUTHORITY OF THE CITY COUNCIL,

TO EXAMINE THE SOURCES

FROM WHICH A SUPPLY OF

PURE WATER

MAY BE OBTAINED FOR THE

CITY OF BOSTON.

BOSTON:
1845.
J. H. EASTBURN, CITY PRINTER.

CITY OF BOSTON.

In Common Council, May 29, 1845.

Ordered, That the Joint Standing Committee on Water, be authorised and instructed to take such measures as in their judgment may be necessary to enable the City Government to decide as to the expediency of accepting the proposition of the proprietors of the Spot Pond, to sell said Pond to the City, for the purpose of distributing its waters therein.

Sent up for concurrence.

P. W. CHANDLER, *President.*

In the Board of Aldermen, June 9, 1845.

Read and concurred.

BENSON LEAVITT, *Chairman pro tem.*

CITY OF BOSTON.

In Common Council, October 23, 1845.

Ordered, That the Joint Standing Committee on Water, be authorised and instructed to cause to be printed, not exceeding Ten thousand copies, for distribution among the inhabitants, of the Report of Messrs. Jervis and Johnson, Commissioners, appointed to estimate the probable cost of supplying Boston with pure water from a foreign source.

Sent up for concurrence.

P. W. CHANDLER, *President.*

In the Board of Aldermen, Oct. 27, 1845.

Read and concurred.

BENSON LEAVITT, *Chairman pro tem.*

To the Committee of the City Council, having charge of the subject of supplying the City of Boston with Pure Water.

Gentlemen,

The annexed Report is submitted, as the result of the investigations of the undersigned, Commissioners appointed to examine the sources from which a supply of Pure Water may be obtained for the City of Boston.

JOHN B. JERVIS,
WALTER R. JOHNSON.

Boston, Nov. 18*th*, 1845.

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Erratum.—On page 35, from 19th line to end of sentence in 27th line should be erased, for which read,

In a work on the Cornish Engines, by William Pole, published in 1844, is given a table showing the reported performance of the Cornish Engines from 1822 to 1843; from which it appears that the average performance of 36 Engines, reported in 1843, was 60,000,000, (and this is stated to be too high for a fair average.) And of 49 Engines reported in 1842, the average was 53,800,000, while the maximum was 96,000,000 and 107,000,000 in the same years. He also states the average duty of the Engines at the Cornish Mines, at the date of the publication (1844), to be 54,000,000—which shows the average performance at the Cornish Mines to be but little more than half that which is performed by the best engine under the most favorable circumstances.

WATER REPORT.

INTRODUCTORY REMARKS.

In accordance with an engagement made in the latter part of June last, several sources for supplying the City of Boston with water, have been examined.

The sources that have been examined are Spot Pond, Charles River and Long Pond. It was our intention to have examined Mystic Pond, in connection with, and as an auxiliary to, Spot Pond; but the time allotted to the examination did not permit. It appears from reports made in 1837 and 1838, by Commissioners appointed to examine the subject, that Mystic Pond was considered the proper auxiliary to Spot Pond. At that time the navigation of Charles River did not extend above the bridge at Cambridge, and the navigation, or ship building, had not gone so far up on Mystic River as it has now done. The plan then proposed by the Commissioners, was to carry a pipe from Spot Pond, crossing Mystic River on a bridge a short distance above Medford village, and then to a reservoir on Walnut Tree Hill—the complement of the supply to be forced up from Mystic Pond, by pumps, into the same reservoir. The water of the two sources, here united, was to be conveyed by iron pipes across Charles River, at Cambridge, over a permanent bridge, and thence to a City reservoir on Beacon Hill. The change in navigation would now require that the Spot Pond pipe should be either carried up to a higher point on Mystic River—which would increase its length—or it must be carried under the river, at such place as is most favorable for the line to cross it. And the crossing of Charles River must be made, if by a permanent bridge, at, or near, the United States Arsenal, requiring a circuitous line—or it must be carried under the bed of the river if it takes the line proposed by the Commissioners in 1837, this change, produced by the extension of navigation on the two rivers, renders it doubtful whether the supply, auxiliary to Spot Pond, had better be taken from Mystic Pond or Charles River. It appears probable that the supply may be obtained more economically from Charles River than from Mystic Pond.

Charles River will be free from the contingency of works constructed under the bed of the river, and Mystic Pond may furnish the better quality of water. If, therefore, the City desire to take Spot Pond, they will find, in the estimate of pumping from Charles River, a sufficient guide for the expense of any auxiliary supply that may be required, and no practical evil will be experienced from the omission to present an examination of Mystic Pond at this time.

Of the three sources contemplated, two—Spot Pond and Long Pond—furnish their supply at an elevation sufficient to deliver the water by the power of gravitation. The third—Charles River—must be elevated by mechanical power.

The amount of supply that can, at all times, be relied on, is the first thing to be determined leaving the question of quality at present out of view. The two ponds have received constant attention since the examination was commenced, by carefully noting their condition, the discharge of water at their outlets, the amount of evaporation, and the quantity of rain that has fallen during the time. Charles River has been guaged for eight weeks during the low stages of water. A survey has been made of the area of the Ponds, at three different levels, and also of the area of country that naturally drains into them, and from which they must receive their supply. In relation to the latter, the important question to decide, is the proportion of the annual fall of rain that will reach the Ponds. It is obvious that a part of it will be lost by the evaporation which takes place from the surface of the Ponds and the ground that constitutes the drainage: and a part by filtration, that is carried to a lower level and consequently can never reach the Ponds. The nature of the soil, the total quantity of annual fall of rain, and the rapidity or ease of the slopes drained, and their condition of cultivation, are circumstances that will affect the proportion that may be collected in a reservoir.

By observations carefully made and long continued, evaporation has been found greatest from surfaces of water; next from those covered with vegetation, and least from naked soils. That evaporation from water surfaces may vary considerably, according to locality, has been rendered evident by the observations of Messrs. Bostock, Dobson, Dalton, Howard, Daniel, Colquhoun and Thompson. Those observations also prove the great diversity which exists between the winter and the summer evaporation,—a point which is most fully confirmed and even more clearly illustrated by the researches of Dr. Hale, as given in his valuable tables, deposited in the Library of the American Academy of Arts and Sciences. Mr. Howard found that at an elevation of 43 feet from the ground, evaporation was by an average of three years, 37.85 inches. At a lower position it was in three other years 33.37 inches, and in a third term of three years, when the evaporating vessel was near the ground, the evaporation was 20.28 inches. These differences refer doubtless to the higher degree of saturation with moisture at the lower than at the higher level. This may possibly account for a considerable difference in the evaporation found at Long and at Spot Ponds, during certain periods of the present season, as shown by the guages at the respective localities, the excess being observed at the latter source. Spot Pond is situated in a high rocky basin, fully exposed to be swept by a stratum of air which has come over the adjacent country at an elevaation of 150 to 200 feet, and therefore has received little moisture directly from the surface. At Long Pond, on the other hand, the waters lie somewhat lower than most of the adjacent country, and to the south west of it (the quarter of the prevailing summer winds) for some miles are ponds and rivers higher than its own surface, covering a large extent of ground.

It may serve to impress more fully the importance of attending to the extent of drainage and the amount of evaporation, to exhibit a concise view of the results of some of the observations made by the authors above cited.

By using a vessel 12 inches in diameter out of which water was evaporated, Mr. Dobson found that the average annual evaporation at Liverpool was 36.77 inches.

Mr. Dalton, in three years, with a cylinder 10 inches in diameter, found the annual evaporation at Kendall 25.75 inches.

With a similar apparatus 5 inches in diameter, and by a mean of observations continued for eight and a half years, Mr. Howard found the evaporation at Tottenham 30.47 inches. The mean temperature at the same place was 49°.56.

Three years' observations at London, with a guage 6 inches in diameter, afforded to Mr. Daniel an average evaporation of 23.98 inches—with a mean annual temperature of 49°.39.

Mr. Colquhoun found at Glasgow, as an average of two years' observations, 32.41 inches of evaporation.

The mean of the above five results is 29.91 inches. Dr. Thompson adopts as the general result of the inquiries on this subject, 32 inches as the average annual evaporation in Britain.

Mr. Dalton makes the annual fall of rain in Britain 35.2 inches, exceeding the above annual evaporation by only 3.2 inches, or 9.1 per cent.

Dr. Hale's observations for three years in Boston, gave, with a vessel 9 inches in depth, an average of 31.72 inches, while the average fall of rain in the same years was 43.34 inches, showing the excess of rain above evaporation to be 11.62 inches or 26.8 per cent.

Without going into detail it may be observed that experiments have been made in this country that show, under circumstances essentially similar to the cases under consideration, that from one third to one half of the annual fall of rain may be collected into the reservoir. Computations made on this species of data, when carefully and cautiously considered, may be relied on with a high degree of confidence. For such an object as that under consideration, it is obviously important that the proportionate ratio should be taken below, rather than above that which may be realised.

For the purpose of determining the annual fall of rain, no rain guage has been kept for a sufficient length of time at the respective localities, and consequently we must rely on observations made at places of greatest proximity, namely, Boston and Waltham, which it is believed will not differ materially from the districts that drain into Spot Pond and Long Pond.

The country draining into Spot Pond presents a more rocky surface which throws off the water more rapidly than that about Long Pond, which latter appears to rest on a sub-stratum of rock, which, to a large extent, is covered with sand and gravel, and probably affords a larger portion of underground drainage. It is not, however, believed that there is in this respect a great aggregate difference in the ratio of drainage in the two cases; at the same time our impression is in favor of the larger ratio of drainage from the Spot Pond district.

Although an approximate result may be obtained from data, resting on the principle of drainage, that may be entitled, to much confidence, still the most certain method is to guage the flow of the water at the outlet, for an entire year or more; and by comparing this with the annual fall of rain, the whole question as to the capacity of the source may be reached with great accuracy. The time required places this test beyond the reach of our examination.

Guages for various periods have heretofore been made, and as before observed, to some extent during the present season. These will be examined and the results compared with computations on the basis of drainage, which, it is believed, will afford such an approximation as may be relied on for the guide of the City, in determining the source to which they should resort for an adequate supply of water.

SPOT POND.

From the report of the Commissioners of 1837, pages 12 and 13, it appears they had guages and observations of the water furnished by Spot Pond that led them to the conclusion that the minimum supply was 1,600,000 gallons per day, and the maximum 2,600,000 gallons per day. The actual measurement was from the 31st of March, to the 3d of November—217 days. The balance of the year was estimated, and the total result was 1,829,932 gallons per day for the year. They considered the year unusually dry, and hence inferred the minimum at 1,600,000 gallons.

It appears from the report of the same Commissioners the following year (1838), page 6, that they continued their regular guage from the 3d of November, 1837, so as to make a continuous guage of the water flowing from the outlet, up to the 27th of November, 1838. This system of guaging, corrected to the difference in the height of water in the pond, is the most full and perfect mode of ascertaining the capacity for supply. From this they determined the quantity for two different periods, to be, for the year in one case, 1,444,121 gallons, and for the other, 1,700,295 gallons as the daily supply. The gallon used was the wine gallon. The year, in the first case, commenced on the 1st of April, and, in the second, on the 27th of November.

The guage made during the past season will be hereafter presented, with such observations on the facts ascertained, as may illustrate the question under consideration.

The area of this pond, when full, is 296 acres ; at five feet below high water the area is 196 acres ; and, at ten feet below high water, it is 148 acres. The area of country that drains into it is, including the pond, 1098—say 1100 acres.

The annual fall of rain at Boston, as appears from the guage kept by Dr. Hale, was as follows :—

From 1818 to 1829—mean annual for 12 years,	39.13	inches
Maximum in 1829, - - - - - -	48.09	"
Minimum in 1825, - - - - - -	32.41	"
From 1830 to 1839—mean annual for 10 years,	39.35	"
Maximum in 1831, - - - - - -	50.86	"
Minimum in 1837, - - - - - -	29.93	"
From 1840 to 1844—mean annual for 5 years,	39.46	"
Maximum in 1840, - - - - - -	46.08	"
Minimum in 1842, - - - - - -	35.19	"

From the 1st of April, 1837, to the 1st of April, 1838—when the first guage was taken—the fall of rain, as appears in Dr. Hale's tables, was 30.2 inches. The guage of the outlet during this period, gave 1,444,021 gallons per day—equal to 193,065 cubic feet—equal to 70,468,725 cubic feet for the year.

The country drained to furnish this supply, as before stated, is 1100 acres, equal to 47,916,000 square feet—including the area of the pond. To produce the result shown by the guage, there must have drained from this area, equal to a depth over the whole of 1.47 feet, or 17.64 inches. The fall of rain, as before observed, was 30.2 inches ; by which it appears that the ratio of drainage to the total fall was as 58 to 100—or more than half the fall of rain must have been collected in the pond and discharged at the outlet. The average area of the pond included in drainage was probably full 200 acres ; and the fall of rain on this would be consumed mostly by evaporation from its surface, leaving 900 acres—or 39,204,000 feet of surface—to furnish the water drawn from the outlet. Reducing the depth drained to this area, 21.48 inches are required to furnish the quantity guaged at the outlet, or .71 of the total fall of rain. This is a higher ratio of drainage than is believed to have been found, by any extensive measurements that have been observed in experiments to determine this ratio. Such observations have been made with great care on districts very favorable for a high ratio, and .449 to .523 has been the result. The country draining into Spot Pond is favorable for a high ratio, but that which appears to be found by the guage alluded to, is much above that found in other places. The guage kept at Boston is of great proximity to this vicinity and has been kept for a great length of time. Dr. Hale furnished a guage kept for four consecutive years at Roxbury, which very nearly agreed with the guages for the same time kept by himself at Boston. The rain guage kept at Waltham by Dr. Hobbs, for twenty years, commencing with 1825, shows the average fall of rain, at that place, to be about the same as at Boston—being 0.63 or ⅝ of an inch less at Waltham for this time. But they differ in amount for the same year ; in some years, at Boston the fall is greater, and at others it is greater at Waltham. From April 1st, 1837, to April 1st, 1838, the time of the above guage at the outlet, the fall at Waltham was 34.16 inches—or 3.96 inches more than at Boston. It therefore may have happened that more rain fell at Spot Pond, during the time that the outlet was guaged, than at Boston ; and this appears the most probable way to account for the quantity found by the guage of the Commissioners in 1837 and 1838. If the guage of Dr. Hobbs, at Waltham, be taken as the fall of rain on the Spot Pond district—that is, 34.16 inches from the 1st of April, 1837, to the 1st of April, 1838—then the ratio of drainage was

.628 of the amount of fall ; which is 20 per cent. above the highest ratio mentioned above as having been obtained in other parts of the country.

The Commissioners, in the report referred to, also made a guage of the outlet for the year commencing November 27th, 1837—and found the quantity discharged for this time to be equal to 1,700,295 gallons per day for the year, equal to 82,968,880 cubic feet. To drain this quantity from 39,204,000 square feet, would require 25.39 inches in depth. The fall of rain by Dr. Hale's guage at Boston, during the same time, was 38.5 inches. This shows the ratio of drainage to be .659 of the total fall, which is 7 per cent. less than the ratio for the year commencing April 1st, 1837.

If the question of capacity of this source were to be determined from the best experiments known, it would not be deemed prudent to base a computation on a higher ratio than .45, or at most, .50 of the total fall of rain, on the district surrounding and draining into the pond. If the ratio be taken at .5 or half the fall for the fall of 30.2 inches say 15 inches drained off to the pond—the produce will be 49,005,000 cubic feet, or 1,030,000 gallons per day ; and for the fall for the year commencing November 27th, 1838, being 38.5 inches, equal to 19.25 inches drained off to the pond—the produce will be 62,726,400 cubic feet, equal to 1,285,460 gallons per day.

So far as a conclusion can be drawn from these data, it is calculated to give the impression that either the quantity shown by the guage at the outlet was in excess of the actual quantity discharged, or the ratio of drainage to the fall of water was unusually large, or more rain fell on that district than was found by the guages at Boston and Waltham. From the surveys and soundings of the pond, made (under the direction of this commission) at three different levels, an approximate computation may be made of the cubic content of water in the pond for 10 feet of its depth. The sill of the gate at the pond is 7 feet below its high water level, and the water has been drawn off, the past season, about 6½ feet. The total contents of the pond for a depth of 7 feet, estimated from surveys, is found to be about 67,000,000 cubic feet. This is equal to 183,561 cubic feet, or, 1,376,707 gallons per day. If therefore the annual product should be just sufficient to fill the pond for this depth (7 feet) in a year, the daily supply will be as above (1,376,707 gallons) ; consequently to produce the amount found in 1837 and 1838, it must have produced more than sufficient to raise the water from a point 7 feet below, to its top, or high water line.

The ratio for the guage from April 1st, 1837, taking the fall at Boston, it has been shown, is .71 of the fall of rain ; taking the fall at Waltham it is .628 of the fall of rain. And for the guage from November 27th, 1837, taking the fall of rain at Boston, it is .659 of the fall of rain. The guage at the outlet, as before observed, so long continued, is certainly the most effectual method to determine this question; and had a rain guage been accurately kept in the district, so that no question could arise on this point, it should be regarded as conclusive. As a general average, it is probable that the fall of water in this district does not vary much from that at Boston or Waltham; but at the time the outlet was guaged, there may have been a greater fall of rain on the Spot Pond District than at either of the other places during that period; and this would reduce the ratio.

In measuring the flow of water at Spot and Long Ponds, during the present season, it was not deemed sufficient barely to ascertain the quantity discharged by the outlet, but also the contemporaneous depressions of the ponds themselves; likewise to determine how much of their depression was due to evaporation, and how far the rise or fall of the ponds might be effected by the rains falling during the periods of observation. This method alone can enable us to calculate, with certainty, the quantity of water derived during this time from the water shed around the pond. Longer periods of trial, like those above detailed, would doubtless derive additional value from knowing how much water was evaporated, during the time, from the pond itself. This, as well as the fall of rain, may—as stated in our introductory remarks, vary in different localities, and equally require investigation.

The guaging at Spot Pond was performed at the same place, and with nearly the same apparatus which had been employed by a former Board of Commissioners. A small dam erected in the channel of the brook below the outlet, and at the side of the old marble factory of Joseph Hurd, Esq., formed, at that point, a small pool from which the water flowed through a notch in the dam into a trough, or spout, that conducted it to a receptacle formed of plank, constituting a cubical box, 6 feet on a side. A movable section of the spout, laid horizontally over the cubical box, formed a water-tight juncture with the upper portion of it, when let down into place for that purpose; and of course, when in that position, caused all the water to flow over the receptacle, instead of falling into it as before. As this movable portion could be raised, or let down, instantaneously, the flow of water into the receptacle could be regulated at pleasure—without the necessity of allowing for errors in time, exceeding the fraction of a second. Some additions were made to the apparatus, as formerly used, mainly for the purpose of facilitating accurate observations. A perforation was made in the dam, and a vertical glass tube placed so as to determine the height of water in the pool above the bottom of the notch through which it passed into the spout. From a bar placed across the notch, at the height of four feet above its bottom, descended a guage-rod which determined the depth of water immediately over the bottom of the notch, and which, when compared with the guage at the dam, above described, gave the depression in the notch, below the general level in the pool.

A bench-mark was placed in the pool, at the level of the bottom of the notch, on which the level of water above the latter could be ascertained without attaching the glass tube—which latter was only used when experiments were to be made with the receptacle.

In addition to the above, a glass guage tube, with a graduated scale, was attached to the exterior of the measuring receptacle by a brass tube traversing the plank of the box, in the same manner as the guage at the dam does the plank of which the latter is composed. A stop cock at the bottom of the glass guage in the brass tube leading through the plank, was used for limiting the oscillations of water in the vertical tube, by nearly closing the passage through which it gained access to the latter. This greatly facilitated the reading of the guage and made it easy to perform a series of several experiments in a moderate length of time. While filling the receptacle the stop cock was of course kept open.

The scales by which the depths of water, both in the pool and the receptacle, were measured, were divided into feet, tenths and hundredths, and the eye of the observer readily divided the latter into thousandths. In practice it was generally found expedient to commence drawing water into the receptacle, with 10 or 12 inches depth already in the same, then to draw for a limited number of seconds, but without entirely filling the receptacle. The actual rise of water was thus ascertained, and the bulk of the prism of water promptly determined. Discharging this by the valve or waste gate at the bottom, a repetition could be almost immediately commenced.

The height of water in the pond was marked at the outlet gate in two different ways, intended for mutual verification. The first consisted in ascertaining the depression of its surface below a mark placed on one of the gate posts on the 11th of July; and the other in determining the depth over the sill of the gate, for which a rod, divided into feet and decimals, was used. In taking these measurements regard was always had to the condition of the surface of the pond, as to motion or rest. The prevalence of strong winds, without causing either a permanent elevation or depression, generally created a species of miniature tidal oscillations, or successive swells, one or two hundredths of a foot in height, returning after a number of seconds, and requiring a succession of observations to fix the true mean elevation of these oscillatory movements.

The first visit of the Commissioners to Spot Pond was made on the 26th of June, when the depth of water passing over the notch was .55 foot—which gives a discharge of 2,621,272 gallons per day. From this period to July 12th, the average quantity discharged by a mean of several measurements at the weir, or notch, was 2,455,300 gallons, and for the whole 16 days 39,285,000 gallons. On the 11th of July observations of the height of water remaining in the pond began to be more exactly noted than before. It had previously fallen about 10.5 inches from the time of our first observations.

On the 12th of July, while the workmen were engaged in establishing the apparatus for measuring in the receptacle at the old factory, the gate at the outlet was raised, by order of the lessee of the iron works near Malden, 8 inches above its previous height. This increased the discharge to an average of 7,711,848 gallons per day for a little more than 6 days—say 6 days 7 hours —giving during that period a total discharge of 48,521,500 gallons. The pond fell 8 inches during this time, leaving the water 31 inches deep over the sill of the outlet gate.

On the 19th of the same month at 9¼ A. M. the same party caused the gate to be closed, but not so effectually as wholly to prevent leakage—not having taken the precaution to clear the sill from pebbles washed over it by the current. For 10 days and 5 hours the gate was allowed to remain thus closed, and as the head of water above the leak was about 2½ feet, the discharge was of course considerable,—amounting, on an average of several observations, to 417,506 gallons per day. This leakage continued from 9¼ A. M. July 19th, to 2½ P. M. July 29th—during the first six days of which period the pond fell one inch ; and when first observed within twenty-four hours after the gate had again been opened, the fall from the time it had been closed was 2.1 inches. In this period the rain guage at the pond had, at different times, received .8 of an inch of water. From this it should seem that the drainage and evaporation, while the gate was closed and for one day after it was opened, had reduced the waters of the pond at least 2.9 inches, which is exclusive of any water which may have been received in rain by the slopes or water shed of the pond, and conveyed to it during the same time. The guage of evaporation not having been completed at this time, it is not practicable to infer how much of the rain which fell on the slopes found its way into the pond. Subsequent observations will, however, pretty fully illustrate this point, and may lead to some interesting general inferences. The total quantity of water flowing from the outlet in the 10.208 days while the gate was closed, was 4,261,901 gallons.

The next period of flow was from 2½ P. M. July 29th—when the gate was opened by the proprietor—to 2½ P. M. August 7th. In these 9 days the average daily discharge was 4,674,200 gallons, which makes the aggregate 42,067,800 gallons. During this period of drainage the water in the pond fell a little over 8 inches and was, at the close of it 4 feet 9.4 inches below high water mark—and 1 foot 7.1 inches below the level of July 11th.

On the day above specified, (August 7th) the gate was again closed by request of Mr. Odiorne, in order, as was stated, to afford an opportunity of mowing the meadows below, on the borders of the mill pond at Malden. It was now much more effectually closed than on the previous occasion, care being taken to clear away the pebbles before closing, and to place above it a little loam to stop, as far as practicable, the leaks which remained after it was down. On this, as on other occasions when the gate was closed or opened by desire of the proprietors, great care was taken to preserve it in the position desired by them. In the present instance it was firmly secured in its place by spikes driven through it into the gate posts. When again raised it was similarly secured at the required height, and at all times great watchfulness was enjoined and exercised, to see that no improper or unauthorized interference with, or alteration of, the rate of flow should be made.

The pressure from the superincumbent head above the gate was gradually withdrawn as the water declined, and the gate was no longer capable of being sustained as at first. Hence it would be liable, if not fastened, to close by its own weight. This may probably account for its being, on one or two occasions prior to the adoption of this precaution, found shut, a few hours after being visited by the attendant. The leakage during the time that the gate remained closed, which was until 50 minutes past 12 on the 17th of August, was at a mean rate of 154,448 gallons per day, and the total discharge for 9.93 days was. 1,533,668 gallons. Rain to the depth of .78 of an inch fell during this period, and the pond declined .91 of an inch. Evaporation took from the surface .189 of a foot or 2.268 inches. The area of the pond was then 187 acres. The water passing the outlet would therefore have covered it .024 of a foot in depth, and hence the total depth of the prism of the water removed was .213 foot. Had the depth of rain and the fall of the pond together equalled this sum, nothing could have been attributed to the water-shed of the pond; but as the rain was only .065, and the fall of the pond but .076 feet, the slopes must have supplied .062 feet over a surface of 187 acres; and since the area of the water-shed was 4.88 times that of the pond itself, the proportion of all the water that fell on the slopes and found its way into the pond, was $.062 \div (.065 \times 4.88) = 19.5$ per cent.

The next period extends from 50 minutes past 12 M., August 17th, when the gate was again opened by Mr. Robinson, to 30 minutes past 6 P. M., August 30th.

In the beginning of this period, the flow of water was at the rate of 2,990,110 gallons per day—and at the end, 1,922,345 gallons; and during these 13.236 days, the average by the daily guaging was 2,583,500, and the aggregate—34,195,185 gallons, or 4,559,358 cubic feet.

The rain which fell was 2.545 inches=.2121 foot, and the evaporation from the pond was .237 foot. The level of the pond fell 5.78 inches = .4416 foot. In the middle of this period the pond had an area of 178 acres, as shown by our surveys, and consequently the height of prism removed by drainage was 4,559,358 ÷ 7,753,680 = .588 foot. This, with the evaporation makes .825 foot, and the depression of pond and fall of rain make .6937 foot—leaving to be supplied by the water shed .1313 foot. The water-shed was then 920 acres, or 5.15 times the area of the pond ; from which the proportion of rain drained from the slopes is .1313 ÷ (.2121 × 5.15) = 15.1 per cent. At the end of this period the water was 5 feet 4 inches below the high water level in the rock, and 2 feet 1¾ inches below the mark of the 11th of July.

The next period extended from August 30th at 6½ P M. to September 22d at 5¾ P. M. On the first of these days the gate was by some means detached from its fastenings and lowered ; but it was soon replaced by the observer, not however without a slight variation in the height at which it was spiked up. It appears to have been set about half an inch lower than before. A corresponding diminution in the daily supply was, of course immediately observed. As in the previous period, by the gradual decline of the head of water above the gate, the daily flow had correspondently declined, from 2,990,110 gallons to 1,922,345 gallons per day—so with the period now under consideration, it commenced with a flow of 1,658,850 gallons, and gradually fell off (except when temporarily raised or sustained by a fall of rain) to 502,227 gallons. In these 22 days the pond declined 5.19 inches = .4325 foot ; rain fell to the depth of 2.235 inches = .1862 foot ; evaporation carried off .416 of a foot, and the total quantity of water which flowed from the outlet was 19,670,668 gallons, or 2,622,755 cubic feet. The pond then contained about 172 acres, and consequently the water flowing from the outlet must have covered it to the depth of .3500 foot—to which adding the evaporation, we have .7670 foot, as the whole depth of water removed. The fall of the pond together with the depth of rain which fell upon it, amount to .6187 foot—leaving .1483 foot as the depth of water on the pond derived from the surface of the water shed. As this latter was 926 acres, or 5.383 times the area of the pond, the actual depth derived from its surface of ground was .1483 ÷ 5.383 = .0275 foot ; this makes the proportion which reached the pond from the surrounding slopes, 14.7 per cent of the depth of rain which fell upon them. At the end of this period the pond was 5 feet 9 inches below high water mark in the rock.

At the beginning of the eighth period, the gate at the outlet was wholly removed by Mr. Robinson, and was not again replaced during our observations. It continued from September 22d at $5\frac{3}{4}$ P. M. till October 2d at $9\frac{1}{2}$ A. M. when the channel at the outlet was deepened by Mr. Robinson. During this time the average daily flow was 493,640 gallons, or, for the whole time of 9.656 days—it was 4,766,590 gallons = 635,545 cubic feet. The rain was only .845 inch = .0704 foot—the evaporation .111 foot—and the fall of water in the pond .72 inch = .06 foot; the area of the pond was 171.9 acres, and the depth to which the water that escaped at the outlet would cover it is 635,545 ÷ 7,487,960 = .0849 foot. Hence, the evaporation and drainage amount to .1959, and the rain and fall of pond to .1304—leaving to be supplied from the water shed .0655 foot, which would be, for its whole surface, only .0125 foot. or 17.5 per cent. of the total fall of rain.

The last period of observation which we propose to present, is that from the 2d of October to the 1st of November.

By carefully levelling at the outlet on the 7th of August preceding, we had ascertained that the sill of the outlet gate was about 7 inches lower than the existing channel below the dam, which must of necessity limit the water to a height just so much above the sill. Information of this fact was communicated to the proprietor of the pond, on the 6th of September following, and on the 2d of October—the water having been previously reduced to a daily flow of about 340,000 gallons—Mr. Robinson deepened the channel, thereby augmenting the flow to 942,192 gallons. This was subsequently further increased by the fall of several copious rains which, for a time, raised the pond so as to discharge 1,640,088 gallons. These rains continued, at intervals, until the 21st of the month, amounting in all to 3.765 inches = .3137 foot. The total evaporation during these 30 days was .311 foot, and the depression of the pond was 2.44 inches = .2033 foot, in the same time—bringing it 6 feet, .04 inches below the high water mark in the rock and 34.14 inches below the water level of the 11th of July. The average daily drainage was 937,688 gallons—the maximum being, as above stated, 1,640,088, and the minimum 329,832. The aggregate is 28,130,635 gallons, or 3,750,751 cubic feet. The area of the pond being, at this level, 169 acres, will give a depth removed by drainage, of .5081 foot, and show that the pond received from its water-shed .8191—.5170 = .3021 foot; from which it appears that the water shed supplied to the pond .3021 ÷ (.3137 × 5.5) = 17.5 per cent. of all the water which fell upon it during the rains in the early part of the month.

From the preceding statements the following summary may be derived, showing the quantities of water drawn at the different periods.

1st period, from June 26 to July 12, the average daily flow was,	2,455,300	galls. aggregate	39,285,000	galls.
2d do. do. July 12 to July 19,	7,711,848	"	48,521,500	"
3d do. do. July 19 to July 29,	417,506	"	4,261,901	"
4th do. do. July 29 to August 7,	4,674,200	"	42,067,800	"
5th do. do. Aug. 7 to Aug. 17,	154,448	"	1,533,668	"
6th do. do. Aug. 17 to Aug. 30,	2,583,500	"	34,195,185	"
7th do. do. Aug. 30 to Sept'r 22,	894,121	"	19,670,668	"
8th do. do. Sept'r 22 to Oct'r 2,	493,640	"	4,766,590	"
9th do. do. Oct'r 2 to Nov'r 1,	937,688	"	28,130,635	"
Total, - - - - - - - - -			222,432,947	"

Or at a mean rate, for 128 days, of 1,737,760 gallons per day = 231,710 cubic feet—and a total bulk of 29,657,700 cubic feet.

This drainage has reduced the level of the pond about 44.5 inches, and left it so nearly exhausted that the daily flow was, on November 1st, but 329,832 gallons.

Since the first of August, when our survey of the aera of the pond was made at water level, there have been drawn from the outlet 17,381,859 cubic feet—reducing the surface 23.04 inches.

The quantity of rain which has been guaged during the months of August, September and October, has been 10.17 inches—and of evaporation 15,732 inches; showing that, at this period of the year, the evaporation from the water surface exceeded the rain which fell upon it by 5.562 ÷ 10.17=54.69 per cent.

During the last five periods of observation in which we have been enabled to ascertain the amount of drainage derived from the water-shed, it appears to have given the following proportions, viz.

In the 5th period—	10 days,	- - -	19.5 per cent.
" " 6th "	13 "	- - -	15.1 " "
" " 7th "	23 "	- - -	14.7 " "
" " 8th "	9 "	- - -	17.5 " "
" " 9th "	30 "	- - -	17.5 " "

If each of these per centages be multiplied by the number of days in its period and the sum of the products be divided by the whole number of days, we obtain an average of 16 6 per cent., which proves that the slopes themselves, at this season of the year, evaporate or otherwise dispose of 83.4 per cent. of the water which falls upon them. These results prove the ratio between the evaporation from the surface of the pond and from that of the slopes, consisting mainly of a soil covered with vegetation, to have been—in August, September and October last—.8340÷1.5469=53.9 per cent.

The depth of water which the pond actually received from its water-shed, during the above period of 85 days, was .709 foot or 8.41 inches, which, added to the depth of rain given above, makes the total amount received 18.58 inches; from which deducting the evaporation, we have 18.58—15.73=2.85 inches for the height which the pond would have risen by all the rains, had no water been drawn from the outlet.

Dr. Hale has found that, at Boston, the months of August, September and October together afford, on an average of 22 years, 9.62 inches of rain. This year, they gave at Spot Pond 10.17 inches ; or .55 inch=5.7 per cent. above the average, which proves that the season has not been one of unusual dryness. This is confirmed by what has been found at Long Pond, where, in the same period, 10.40 inches of rain have been guaged, showing a difference of only .23 inch from the Spot Pond observations, but .78 inch above Dr. Hale's general average.

The evaporation guaged on Spot Pond is 6.32 inches above the general average of 9.41 inches—which, in a period of 3 years and with an evaporating vessel 9 inches deep, Dr. Hale obtained in Boston. The difference amounts to 67.2 per cent.

This may probably be, in great part, attributed to the different depths of the vessels employed. In our apparatus the water was always kept at a height about 2 inches only below the top of the cylinder. By being immersed in the pond, the cylinder and its contents always maintained nearly the same temperature as the latter. Hence it had, at night as well as in the day time, the same evaporative power, for a given area, as the pond. More than one third of the evaporation generally occurred during the night.

The pond being now empty, we have next to consider the means by which it will probably be filled.

Dr. Hale found in 22 years, an average depth of rain falling in November, December, January and February, amounting to 12.93 inches. He also found, for the same four months, an evaporation of 3.3 inches. If we suppose that the surface of the Spot Pond district, during the ensuing four months, receives the same quantity of rain, and undergoes the same evaporation, the depth of 12.93—3.3 = 9.63 inches = .802 foot, would remain ; and if the average area of the pond be taken at 200 acres, the direct supply from rain will be 43560 × 200. × .802 = 6,987,024 cubic feet.

Admitting also that the ratio of evaporation on the land to that on the water shall be the same in winter as it has been in summer and autumn (53.9 per cent.) the water shed will send into the pond from its whole surface, a depth of 12.93—(53.9 × 3.3) = 11.15 inches, or 86.2 per cent. of all the water which it receives ; and this, on an area of 898 acres, will give 43560 × 898 × .929 = 36,339, 580 cubic feet, which, with what is derived directly from the rains by the pond itself, makes 43,326,604 cubic feet supplied in 120 days. From this deducting what has been drawn out in 120 days of our observations, which is equal to 231,710 × 120 = 27,805,200, we have left 15,521,404 cubic feet to be drawn within the following four months—leaving the pond about the height at which it stood on the 3d of July last. This affords, for the average daily drainage of the two periods of 120 days in each, or 240 days in all, 180,527 cubic feet, or 1,393,950 gallons.

If we admit that the winter rains at Spot Pond will exceed those at Boston as much as did those of the autumn, viz. 5.7 per cent. the above quantity will be increased by 77,175 gallons daily, and the average daily supply will then be 1,471,125 gallons = 181,556 cubic feet. This seems the most favorable view which can be taken of the winter supply of water to the pond.

In March, April, May and June, the average rain in Boston is 12.85 inches, and the evaporation 13.26 inches ; from which it appears certain that the pond cannot be expected to receive *directly* in rain any accumulation or addition to its height in those four months. The only question is as to the proportion which will be furnished indirectly by the surrounding lands. We have no direct observations which will determine this proportion. But as the months of May and June are, in temperature and moisture, not very unlike August and September, it may reasonably be inferred that the land will, in those two months, give the average evaporation of the periods which we observed, and therefore afford about 17 per cent. of drainage ; and if we give to March and April the same proportion as the four months which precede them, viz. 86.2 per cent. the average of the four months will be 50.41 per cent. Hence a fall of 12.85 inches of rain will give $43{,}560 \times 898 \times .5395 = 21{,}103{,}600$ cubic feet of water to the pond, and afford a daily drainage for the 122 days in those months, of 172,980 cubic feet, or 1,297,350 gallons.

In order to afford a daily supply of 1,471,125 gallons, the slopes must furnish over their whole area a depth of $(181{,}556 \times 122) \div (43{,}560 \times 898) = .5662$ foot, or 53 per cent. of the rain falling in these months.

The experiments and computations already given, showing the quantity of water actually derived from the water shed, do not favor the supposition that any very extraordinary proportion will be available for drainage over this district, since the highest result obtained—that for the fifth period of observation was only 19.5 per cent.

In view of all the facts that have been ascertained and the observations that have been made, it may be assumed that a ratio of not more than $\frac{6}{10}$ of the total fall of rain may be relied on from the district drained.

The guage kept by Dr. Hale, at Boston, is about 8 miles from the centre of the district, and that kept by Dr. Hobbs, at Waltham, is between 5 and 6 miles. The proximity is such that they may be considered, in the general result, as a good guide for this object. From 1818 to 1844, inclusive—27 years —the minimum fall of rain at Boston was 29.98 inches in one year. There are 9 years in the series that fall below 36 inches for one year, and 3 years that fall below 33 inches in each year. The average for the series is 39.31 inches. At Waltham, in a series of 20 years, commencing with 1825, the minimum fall was 34.09 inches, in one year, and 3 years in the series fell below 36 inches in each year.

In deciding on sources to supply a city with water, it would not be proper to take the average of a series of years. A town will need more water in a dry season than in a wet season, and consequently that source only, which affords a sufficient supply at its minimum capacity, should be adopted. In a season of unusual drought, no benefit, or consolation for a short supply of water could be obtained from the fact that, in other years, large quantities had run to waste. If the Waltham guage (being nearest in location, and perhaps most applicable) be taken, then 34 inches is the minimum; and this is strictly the proper datum for such a computation. But as only 3 years out of 20 fell below 36 inches, it may be regarded as reasonably safe to assume 36 inches as the annual fall—and more especially as this will not, on the ratio of .6-10 materially exceed the lowest guage of the Commissioners in 1837 and 1838. On this basis the annual amount will be .6 × 3 × 39,204,000 = 70,567,200 cubic feet, equal to 1,446,138 gallons per day.

After a careful examination of all the data that have been obtained, it appears that Spot Pond may be relied on to supply about 1,500,000 gallons per day. It may, and probably will, in some years—fall a little below, but it will generally afford this quantity.

The area of Spot Pond, as before stated, contains, when full, 296 acres; at a level 5 feet below the high water line, it contains 196 acres. Between these levels, it therefore appears, there are 100 acres which are covered, when the pond is full, with not exceeding 5 feet depth of water, and a large portion from 1 to 3 feet in depth. This bears a proportion to the whole area of the pond of 34 to 100—or a fraction over one third of the pond is shoal water, no part exceeding 5 feet in depth. There is doubtless some objection to this amount of shoal water, not sufficient in depth to prevent the free growth of marsh grass and other aquatic vegetation. The most economical method to improve it for a reservoir, would be to run a dyke bank across, and cut off the main body of the shoal water. The ground covered by shoal water, being generally a soft and spongy marsh, would not afford a suitable material for this dyke. A body of solid earth should be first laid down, and then, at a suitable distance, the marsh may be excavated and the material formed in rear of the solid earth, to a level one or two feet above high water line. The marsh should then be laid off in sections, some of which should be excavated, and others filled up to the level of the dyke bank. A catch water drain should then be carried around the low ground, so as to turn all the water that would naturally run into this part, and lead it to the reservoir. But the drain will not take the water that falls within the area of the low ground and marsh circumscribed by the dyke and drain. Water will to some extent collect, and will have no means of escape except by evaporation and absorption. The excavated sections would form basins or pools to receive this water and throw it off by evaporation. It is difficult to determine what extent of basin surface would be sufficient to provide for the evaporation on a scale that would prevent any objection from the pools of water. They would be cut off from the reservoir, and no objection could arise except from their influence on the surrounding country. The water is at present drawn off by the gradual depression of the pond, and the surface of the ground and marsh laid bare. Perhaps if one third of the marsh were excavated so as to receive the water in the basins, to a depth of 7 feet, when full, its effect would not be materially different from that of the natural action of the pond. The most effectual method would be to excavate the marsh to the depth of the reservoir, or through the vegetable earth ; that is, the depth to which water is to be drawn from the pond, or to gravel or other hard bottom ; and next to this, to excavate so much of the marsh, as would raise the balance above the top water level of the reservoir. There is a doubt whether some portion of the marsh has sufficient substance to admit of the method of raising a part by that portion excavated ; but if it will bear this, the plan is much more economical than to excavate the whole.

To excavate the whole marsh to the bottom level of the reservoir, would be expensive—which is the reason for the first suggestion of cutting it off by a dyke bank. To excavate to the bottom level of the reservoir, would require the removal of about 500,000 cubic yards. To excavate a part and raise the remainder above high water level, provided it has sufficient substance to stand, would only require the removal of about 200,000 cubic yards (these quantities are only approximate, made from a general average of depth), and it would, in this case, all be within wheeling distance, and, of course, much less expensive per yard. In this case the experiment could be made, by a partial excavation and a dyke bank, to determine whether the water collecting behind the dyke would produce any injury ; and if not, then the object would be secured at the least expense practicable. The question cannot be intelligently decided without some experiment that will show the consistence of the marsh for forming a slope bank. It is to a large extent, as already observed, soft and spongy, and the probability is that the expense necessary to convert it into a reservoir would be larger than the object would warrant. If the substratum were gravel, the absorption would so aid the carrying off the water that a dyke might be ventured ; but the probability is that this is rock, and will lose but little by absorption. It is believed therefore, that, if this source is taken, it must be subject to the objection of having a large proportion of shallow water, or that the experiment of a dyke must be adopted, depending mainly on evaporation to dispose of the water that will fall on the surface behind it. This feature of the pond is unfavorable, and it is not easily remedied without a heavy expense.

A dam with a waste weir will be required at the outlet of the pond.

For the purpose of conducting the water of this pond to the City of Boston, a cut will be required at the southerly corner. The natural outlet is farther from the City, and does not present, on the whole, so favorable a point to commence the work.

This cut will be, from the pond to a point where the iron pipe may be laid, about 1300 feet in length ; the greatest depth of cutting 17.5 feet. Through this cut the water may be conducted in an open channel, or a closed conduit of masonry may be laid down. The latter is the best plan, and therefore, for the purposes of this estimate, will be adopted.

The location for the cut is through the bottom of a depression in the hill, that bounds this part of the pond. The excavation, so far as it can be inferred from the surface of the ground and the adjacent country, will be about two thirds rock. It is proposed to make the conduit three feet wide and four feet high, of brick masonry laid in cement.

At the southerly termination, the cut in which the conduit is to be laid enters the head of a small valley that descends towards the village of Medford. From this point the general depression of the country is such as to render it inexpedient to adopt any other conduit than an iron pipe.

A structure of hydraulic masonry is proposed, into which the head of the pipe will be inserted at the end of the conduit of masonry. This masonry to be extended so as to receive suitable gates to let on, or shut off, the water. At the head of the conduit, a screen, to prevent the passage of any substance that should not be permitted to enter the pipes, must be constructed.

The ditch to receive the pipes is located along the valley before-mentioned to Mystic River, striking the river at the upper end of the village of Medford. The upper part of the valley is very irregular and rocky, and the ditch will require considerable excavation of rock. The only navigation of the river above this point, is that used for the accommodation of a shipyard, which is said to be of little value, not sufficient to render it necessary or important to place the pipe under the river. If, however, it should be found necessary to go above the shipyard, the line would be about a quarter of a mile longer to Walnut Tree Hill.

The line of pipe thus far described, is on the route that passes through Cambridge. If the route through Charlestown be taken, it would be shortened by diverging southward at a point about 1 1-4 miles from Mystic River. If the line be allowed to cross the river at the point before described (being below the upper shipyard), the Charlestown line, by crossing the river below the village of Medford, will be about three quarters of a mile shorter than to follow the Cambridge line to the river. It would be a less expense to put a culvert under the river than to lay this extra length of pipe, but there are objections to this method that are believed to be more important than the saving in expense. If the line be carried above the upper shipyard, the distance for the Charlestown route will be increased, by following that route to the river, about 1⅜ miles, which would so increase the expense, that a culvert under the river would probably be adopted. As it is supposed that the navigation is not sufficiently important to require the line to be carried higher up than as first described, the diverging point for the Charlestown route will be taken at the crossing of the river. From this point, the route through Charlestown to the State House is 15,750 feet shorter than the route through Cambridge. The former crosses Charles River where a permanent structure will be more expensive than will be required for the latter. The points of difference are important in both cases.

In order to provide for the shorter line, through Charlestown, plans for crossing the river have been under consideration.

This being a large navigable river, it forms a serious, though not insurmountable difficulty, to the passage of a line of water pipe. The pipe must go over, and above the masts of vessels, or below their bottoms. To go under is the only plan now to be considered. In order to do this, a water tight conduit, of some kind, is necessary, to lay the pipe in, and protect it from salt water. A structure of masonry would be the most appropriate for this purpose. To carry a regular construction of tunnel under the bed of the river would be too expensive. By too expensive, it is intended to be understood, that the object of pursuing this route would not warrant the expense. The river is too wide to lay a culvert on its bottom by means of a coffer dam, and this plan would, on other accounts, be quite inadmissible. One other method of a permanent character may be mentioned; that is, after filling in to the stream as far from the shores as could be admitted by a permanent embankment, then to carry from each shore a bridge, composed of stone piers and arches, to a proper point, or opposite the draws of the present bridges, and there put down a culvert and wells of hydraulic masonry, connecting the wells with the bridges from each shore. A modification of the last may be adopted — that is, to substitute a wooden bridge, similar to those now in use, and connect them with wells and a culvert of masonry, by which means the pipe, opposite the draws, would pass under the river. This plan would require a coffer dam to be erected around the site for the masonry of the wells and culvert. As the site must be opposite and near the draws in the present bridges, the coffer dam would interfere with the navigation while the work was in construction, unless a temporary draw should be erected at another place.

The plan that would least interfere with the navigation of the river and the use of the draws in the present bridges, and bemost economical in construction, is to construct a bridge on piles, similar to those now standing, carrying it from each shore to the proper point opposite the draws, and there sink a wooden structure adapted to receive the pipe and carry it across the navigable channel of the river. This wooden structure would be the wells and culvert through which the pipe would be carried, in the same manner as through a structure of masonry. The part which answers to the culvert or tunnel, may be constructed like a vessel, with a square form — 16 feet wide, 70 feet long, and 6 feet deep in the clear — secured in all respects in the most substantial and permanent manner, to render it durable and water-tight. Near each end of this, insert a well six or seven feet in diameter. The bed of the river to be dredged out to the proper depth and made level, and the wooden structure sunk in its place below the action of vessels. The whole to be securely protected against injury from vessels by piles and docking, and in all respects made and secured so as to give the greatest degree of permanence the nature of the case admits. This plan is no doubt practicable, and is believed to be the most economical that can be adopted for this purpose.

One of the present bridges would seem to furnish means for this plan. To the use of these, however, it is considered there are serious objections. 1st. There is not room sufficient to spare for the pipe trunk without incommoding the great use of the bridges. 2d. The present bridges are old, and to take up the work on account of the decay of the bridge, would be a serious inconvenience, and such as would render it important to secure, in the first place, the greatest durability of structure. 3rd. The public bridge would be more exposed to fire than a new one, insulated and capable of being better secured against such danger. 4th. It would be extremely difficult, if not impracticable, to sink the conduit vessel in either of the places occupied by the draws in the existing bridges.

It is therefore considered most advisable to start a new bridge from the Charlestown shore, commencing on the easterly side of, and next to, Warren bridge; diverging easterly so as to strike a point outside, and near the end of the docking that runs out eastward from the north side of the draw. At this point the wooden culvert and wells to be placed in such a position as to allow free passage to vessels, not only through the draw in the Warren bridge, but to the wharves next to the bridge on the Boston side. From the southern well the bridge to be continued to the wharf on the Boston side. By this plan, the wharves on the Charlestown side will have the same access as they now enjoy, and those on the Boston side will be easily approached; and no damage will be done, except so far as they may be necessarily occupied by the landing of the bridge at each end.

On the bridge, a trunk about 6 feet square (on the outside) may be laid to receive the iron pipe. The trunk should be double cased, outside and inside the timbers, so as to leave a hollow space between the casing, and the pipe surrounded by some non-conducting substance, to protect against freezing. A metal roof should be put on over the trunk, for the double purpose of protecting the trunk from the weather, and against damage from fire. It is estimated that the river may be crossed, on this plan, for about $45,000; and by a permanent plan, such as before discussed, for $120,000 to $130,000.

Any plan of carrying the pipe under the river must be liable to the following objections. 1st. It is expensive. 2nd. It exposes the pipe to contact with salt water, that, after all practicable care, may more or less leak through the structure, and operate destructively upon the iron. 3rd. The pipe descending and then rising again from the bottom of the river, a hollow is formed in the line where sediment will tend to deposit, which can only be blown off through a waste cock that must discharge above the level of tide, or about 36 feet above the bottom of the bend in which the deposit will collect. It is probable that the greater part of this sediment could be thrown off by a waste cock, at this elevation above the bottom; but the portion that would be too heavy to be thrown off in this manner, must be taken out by hand, through a man-hole in the pipe. It is proper to present the objections, although they are not regarded as affecting the question of practicability.

The Cambridge line is not free from the same objectionable character of work. It is, however, of a more limited extent; the river being much less in width and depth, a coffer dam may be made to enclose the area required to put down the masonry of wells and culvert. When the Commissioners of 1837 made their report, it has been stated that navigation did not extend on Charles River above Cambridge, and they therefore estimated for a bridge to carry the pipe above water. At this time, navigation extends to the United States Arsenal, and to carry the pipe above the head of the present navigation, would increase the length between 3 and 4 miles. There is therefore no alternative but to go under the river. The Cambridge route must pass over the mill-dam, and must encounter extra expense in passing the gateways. The expense of constructing a reservoir on the Cambridge line, at Walnut Tree Hill, will be less than at Bunker Hill; but being at a greater distance from the city, it will be of less value. In other respects the two routes may be considered as presenting, in the aggregate, no material difference of character.

Without sufficient time to mature and carefully settle the details of work required, it is difficult to decide which of the two lines may be constructed for the least expense. If both were constructed on permanent plans, it is believed there would not be a great difference. As, however, there is more contingency in the work required to cross the river at Charlestown, it is deemed most prudent to make the estimate at this time on the Cambridge route.

After much consideration, it is proper to remark that the plan of a wooden structure is not here recommended, for the following reasons. 1st. All extensive works are more or less liable, from accident and the deteriorating influence of time, to require repairs, and, sometimes, renewal. This contingency will not fail to press on the consideration of the experienced designer, a close attention to the means of making repairs when necessary, in a way that will produce the least practicable interruption to the usefulness of the enterprise. 2nd. The object to be obtained by the enterprise under consideration, peculiarly demands that the works should be constructed in a manner to give all practicable security against derangement, and that when such contingency does happen, repairs may be made with the greatest attainable convenience and expedition. The wooden structure will be sure to need repairs, and in some respects, will be peculiarly difficult to repair.

The elevation of Spot Pond is 143.77 feet above spring tide level. The elevation of the reservoir on Beacon Hill is assumed, for the purpose of calculation, to be 112 feet above tide. The total descent, or head on the pipe, will be 31.77 feet. But as the water will be drawn down from the pond, the head on the pipe will be reduced accordingly. The extreme depression will be 7 feet, leaving as least head on the pipe, 24.77 feet. The water will seldom be more than 6 feet below top water level, and therefore the head may be assumed at 26 feet, or say 2.5 feet per mile—for general computation.

The diameter of pipe required to discharge 1,500,000 gallons per day, with a head of 2½ feet per mile, is—by the formula of Prony—1.51 feet; and—by Robison—1.65 feet. The latter nearly 20 inches. By an examination of the discharge of a 3 feet pipe after it had been laid two years, it was found to agree nearest to the formula of Robison. It is well known that the discharge of pipes diminishes after they have been laid a few years. An incrustation forms on the inside which obstructs the flow of water through them. In calculating for a main, some allowance should be made for this effect. It is not possible to determine the ultimate extent of this influence, and consequently the allowance must be conjectural. Probably 22 inches would be better ultimate economy than a less size. There is another consideration that influences this question; that is, the size of the reservoir on Beacon Hill. If no other water were to be introduced into the city than can be obtained from this source, the reservoir on Beacon Hill might be sufficient to equalize the day and night flow, to maintain an equal head on the pipe; but if any thing like a liberal supply of water is obtained for the city, this reservoir will not be sufficient to maintain a full flow during the whole 24 hours. The pipe from Spot Pond to Walnut Tree Hill reservoir will have, by means of this reservoir, an equal flow; but from thence to the city reservoir, it will probably be more or less unequal. If 21 inches diameter of pipe be adopted for the line from the pond to Walnut Tree Hill, and 22 inches from thence to the city reservoir, they will be found quite as small as is consistent with sound economy.

Though we have given above the size of pipes which we regard as sufficient to convey the *average* quantity of water furnished by Spot Pond, we must add that this capacity in the conduit must be greatly enlarged, if we intend that the quantity of water supplied shall conform, in any degree, to the actual wants which will be realized at different seasons of the year. It is hardly necessary to say that the size of the conduit must always conform to the maximum demand of any season. As elsewhere intimated, the fact that in January or February a superabundance of water will be at command, will but little assuage the suffering from a short supply in July or August.

In this inquiry, experience, long continued, is our most sure reliance; and fortunately we are enabled to avail ourselves of that which a sister city has for some years been acquiring.

What is here said of the *capacity* of conduits to convey the maximum quantity of water, is of course equally applicable to the *power* of water-wheels or steam-engines, where those machines are employed to elevate the supply.

To guide us in making an estimate as to how much the capacity of any conduit ought to exceed that which may be required for conveying the average annual supply afforded by the source, or demanded by the population to be supplied — we may derive useful information from the experience of the Philadelphia Fairmount Waterworks. Thus from the published annual reports of the watering committee of the City Councils' of Philadelphia, from 1838 to 1844 inclusive, it appears that for the *three months* of July, August and September, the average supply per day has, in those seven years, been 20.6 per cent. more than the average demand for the *whole year*. In some very hot and dry seasons, this excess of the summer demand for water over the average requirement of the year, has been much greater than the above proportion. Thus in 1838, July, August, and September required an average daily supply of 5,151,720 beer gallons (of 282 cubic inches), while the average for the year was only 3,850,647 gallons — being a difference of 33.8 per cent.

In the year 1841, the summer excess over the average for the year, was 27.7 per cent., and in 1844, 30.3 per cent.

It may likewise happen that in those seasons in which the average for the entire summer does not exceed the annual average, so much as in the three instances just stated, yet a portion of it, for some days or weeks together, may surpass the excess experienced in those cases. In the year 1843 for instance, on the 15th and 16th of September, the quantity demanded "during an excessive dry, hot spell of weather, when a great quantity was used for washing the streets," exceeded 6,000,000 gallons per day — though the annual average for that year was only 4,422,400 gallons ; whence it appears that 35.6 per cent. more water was used during that period than, on the average, was required for the daily supply through the year. The difference between the whole summer's average demand and that of the entire year 1843, was only about the usual amount, or 20 per cent.

It appears, therefore, that we have for our guidance four cases, yielding respectively a summer excess, as follows.

In 1838 - - - -	33.8 per cent.
In 1841 - - - -	27.7 per cent.
In 1843 - - - -	35.6 per cent.
In 1844 - - - -	30.3 per cent.
The mean of which is - -	31.8 per cent.

Hence we think it proper to add 33 per cent. to the capacity of the conduit, above what is required for the average demand, or the average capability of the source to supply — in order that those who receive the water may be at all times supplied with such quantities as the season of the year may require. By neglecting this important point, the usefulness of aqueducts is often greatly impaired in seasons of the most urgent necessity, reducing their water tenants to the miserable condition of a short allowance.

Where very capacious reservoirs can be constructed, the provision against the recurrence of short supplies for a few days together, need not be so ample as where the reservoirs are limited ; but a quantity to meet the excess of demand for a whole summer, can hardly be stored in reservoirs — and hence, with the most ample reservoirs, a capacity in the conduit of 25 per cent. above what the average demand for water would require, may be assumed as perfectly safe, reasonable, and necessary. We have been the more explicit in stating this point, because it does not appear to have engaged much attention from those who have heretofore examined the subject.

We shall give hereafter an estimate for the increased size of main demanded by the cause above referred to.

The only suitable ground for a city reservoir appears to be on Beacon Hill. And here, with the exception of a space about 150 feet square, it is so covered with valuable buildings that it would render a large reservoir very expensive. It is supposed that no other ground in the city is of sufficient elevation. It would not answer to have the city reservoirs (if more than one) on different levels, unless it should be determined to have one service higher than the other ; in which case the pipes for each must not be connected, but be brought by separate mains from the fountain from which they should obtain their supply. This would make the system more complicated and less useful, and probably will not be adopted — or, in our judgment, should not be.

The pipe will require to be laid, to a considerable extent, on public roads that are laid over salt marshes and salt water. The embankments of these roads — mostly the western avenue — are not sufficiently elevated above tide level to allow the pipe to be laid above the influence of salt water. The road embankments are not supposed to be sufficiently impervious to wholly exclude the water, which will, so far as it can come in contact with the pipe, tend to destroy the texture of the iron. To counteract this influence, the embankments must be raised — or a bed of puddled earth, of suitable texture, must be laid down so as to prevent the salt water from reaching the pipe. To some extent, the bank may be raised ; but a bed of puddled earth will generally be the most economical. The mill dam road is probably a more impervious body of materials than is found in cases where the bank is formed merely for a road. It is impossible to determine, at this time, what extent will require protection of the kind mentioned above. It may all require it — but this is hardly probable; and it is therefore proposed to estimate for about three fourths of the full measure, for this object.

The road across the mill dam has several gateways, over which the road is supported on timber. Works of a more permanent character are required at these places, and it is proposed to put in arches of masonry. This will require some expense, to give proper stability to the abutments and piers.

It has been observed that a bridge will be required across Mystic River above Medford village. This bridge it is proposed to construct of stone masonry, in a plain style, of rough hammered work; the coping of parapets, and the heading course of archstone, to be got out in regular form and roughly cut.

As before mentioned, the Charles River at Cambridge must be crossed by a tunnel under the bed, or below the water in the river. The tunnel, or culvert, to be composed of hydraulic brick masonry — the ends of the culvert to enter a vertical shaft of similar work on each shore of the river — the length of the culvert to be sufficient for the water-way of the river at this place. The iron pipe would enter the shaft on one side, pass through the culvert, and rise in the shaft on the opposite side. This is the essential outline of any plan for carrying the pipe under the river, so far as regards the manner in which the pipe is to be carried through.

It is proposed to put the culvert or tunnel above, and as near the bridge at Cambridge, as a coffer dam can be constructed. The coffer dam will occupy about half the width of the river, and extend on the marsh sufficiently to enclose the area on which the culvert and wells are to be constructed. When the work is completed, a new channel, in part, must be excavated for the river. The bend at this place will favor a new channel. The plan for a coffer dam that will probably be found best adapted to the circumstances, is to drive a double row of sheeting piles, and fill in the inside, or space between them, with the most water-tight earth that can be obtained; and on the outside, to embank with gravel so far as may be necessary to support the sheeting. The head of the sheeting secured by a frame of timber. It is not expected that any means can be adopted to render the coffer dam wholly impervious to water.

It is proposed to make the culvert 150 feet long, circular, 5 1-2 feet inside diameter, and 12 inches thick in brick, encased in concrete 12 inches thick. Wells, 6 feet diameter, 16 inches thickness of walls, and 26 feet high. With the wells, suitable abutments are to be formed to connect with the shores and protect the work from injury.

In the estimate for iron pipe, the cost in New York for two years past, for pipe, lead &c. laid down complete — except trenching and filling — will be adopted. In this, the pipe has cost $60 per ton. This will vary with the price of iron and lead, but it is, probably, as accurate data as can be obtained. The rise or fall of materials and labor will always affect an estimate, and is a contingency that cannot be exactly anticipated.

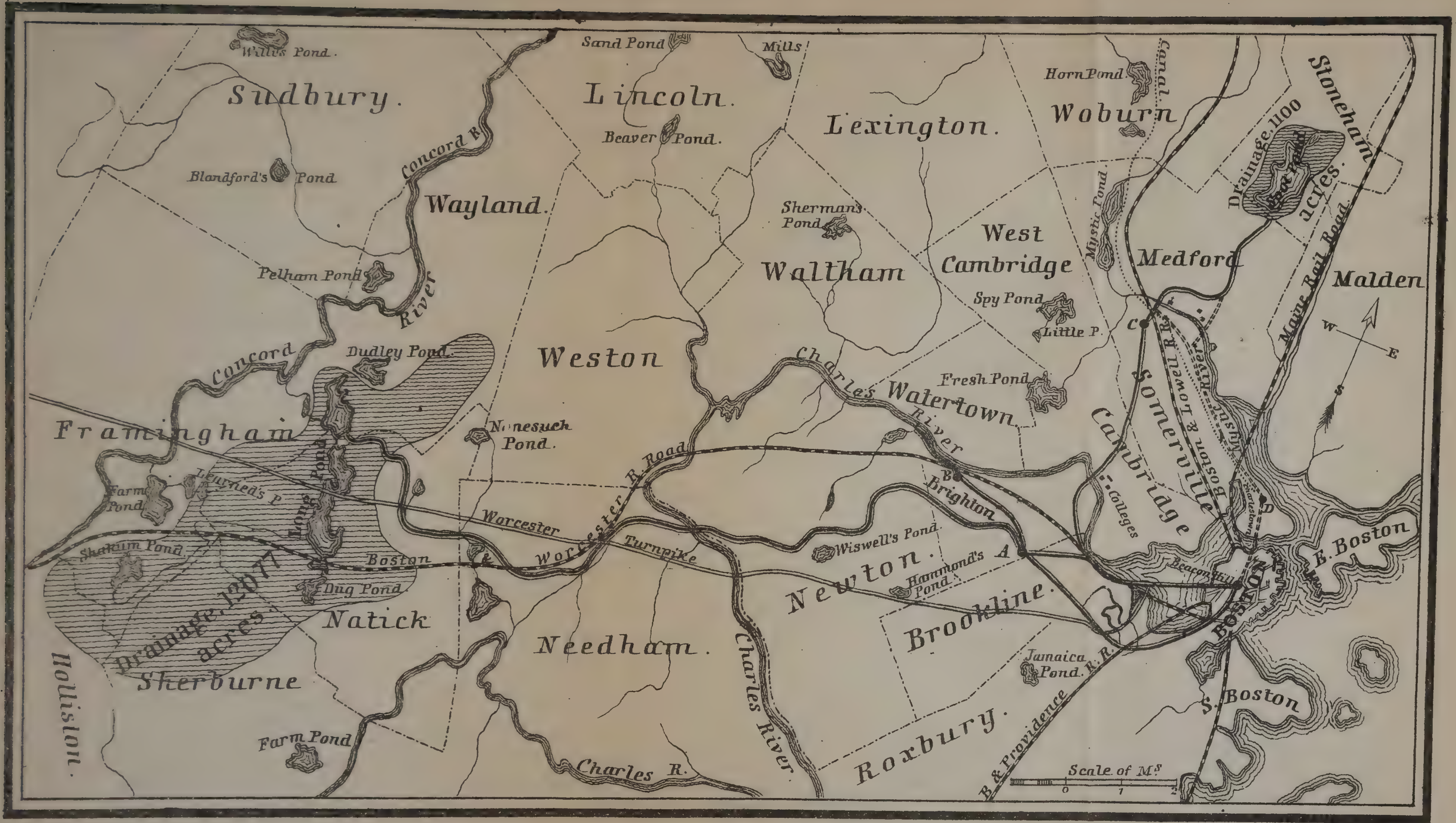
ESTIMATED COST OF INTRODUCING WATER FROM SPOT POND.

Dam with waste weir, formed in natural rock — estimated in the aggregate,		$1,500
Conduit of brick masonry, from the pond to head of pipe, as follows:		
2500 cubic yards earth excavation, at 12 cents	$ 300	
4500 cubic yards rock excavation, at $1.50	6,750	
48 cubic yards masonry at head of conduit, at 5.00	240	
3 cubic yards coping and jambs for screen frame to do. at 15.00	45	
1300 feet brick conduit, with concrete to level in rock, at 3.00	3,900	
3900 cubic yds. back filling at 8 cents	312	
Bulk head, and gates for head of pipe, viz.		
Excavation for foundation, rock and earth	60	
5 cubic yds. concrete in do. at 5.00	25	
120 cubic yds. stone masonry at 8.00	960	
Stone jambs, lintel and brick bottom	150	
Gates, copper screen, roof to gate house and embanking round same	200	12,942
Iron pipe, 21 inches in diameter, to Walnut Tree Hill, as follows:		
17,100 feet, laid down at 5.46	93,366	
Carried forward	$93,366	$14,442

Amount brought over	$93,366	$14,442
36,000 cubic yds. excavation of trenching, at 12 cts.	4,320	
370 cubic yds. excavation rock at 1.50	5,550	
43,000 cubic yds. filling trench and embankment of Mystic River, at 9 cts.	3,870	
Pile foundation on marsh	240	107,346
Bridge over Mystic River, viz.		
FOUNDATION.		
246 piles, at 2.00	492	
360 cubic feet timber, at 12 cts.	43	
7000 feet, board measure plank, at 10.	70	
Carpenter work	100	
1000 cubic yds. excavation of pit at 20 cts.	200	
MASONRY.		
100 cubic yds. in arches and coping including centres, at 10,	1000	
400 cubic yds. masonry in abutments and piers laid in cement at 6.00	2400	
300 cubic yds. dry wall pointed in wings at 4.00	1200	5505
Walnut Tree Hill Reservoir (3¼ acres).		
50,000 cubic yds. embankment, at 15 cts,	7,500	
6,500 cubic yds. puddled earth, at 2.00	3,250	
2,600 cubic yds. inside dry wall, at 2.00	5,200	
Gate house for effluent pipes, with gates, screen, embedding concrete for pipes through banks and other masonry, estimated in the aggregate	2000	
Waste weir, uncertain, will probably cost	2000	19,950
Iron pipe, 22 inches diameter, to Beacon Hill Reservoir, as follows:		
38,531 feet, laid down, at 6.17	237,736	
77,000 cubic yds. exc. of trenches, at 12 cts.	9,240	
3,000 cubic yds. exc. of rock at 1,50	4,500	
Carried forward	$251,476	$147,243

Amount brought over	$251,476	$147,243
12,000 cubic yds. puddled earth for protecting pipes from salt water at 60 cts.	7,200	
90,000 cubic yds. embt. on roads and filling trenches, at 12 cts.	10,800	269,476
Tunnel under Charles River at Cambridge, as follows:		
COFFER DAM.		
26,000 cubic feet sheeting timber, at 15 cts.	3,900	
5,000 cubic feet timber for chords, ties and braces at 12 cts.	600	
2,000 lbs. iron bolts &c., at 10 cts	200	
Driving sheeting and carpenter work,	2,800	
5,500 cubic yds. water-tight earth between sheeting, at 40 cts.	2,200	
5000 cubic yds. gravel to support sheeting, at 30 cts.	1,500	
8000 cubic yds. excavation for foundation inside of coffer dam, at 40 cts.	3,200	
FOUNDATION FOR MASONRY.		
2000 cubic feet timber, at 12 cts.	240	
7,000 feet, B. M. plank, at 12.00	84	
Carpenter work,	150	
MASONRY.		
175 cubic yds. brick, at 12.00	2,100	
205 cubic yds. concrete encasing brick work and in foundation, at 7.00	1,435	
400 cubic yds. masonry in abutments, at 6.00	2,400	
750 cubic yds. puddling over culvert, at 60 cts.	450	
Pumping water from pit, estimate	3,000	
Extra length of pipe, curve patterns, for man hole, plate, and putting down pipe in culvert	500	
Stop cock in main pipe, waste branch, and cock in ditto to blow off	350	
House over each well, and pump and fixtures to clear water from culvert,	250	
5000 cubic yds. embt. at the rear of abutments, at 25 cts.	1,250	
Carried forward	$26,609	$416,719

Amount brought forward	$26,609	$416,719
Removing coffer dam and excavating new channel of river	5,000	
Extra contingent allowance for uncertainty in this kind of work, 20 per cent,	6,321	
Total for crossing river,		37,930
Arches &c., at gates in mill-dam, viz.		
1106 cubic yds. in impost, arches and coping, at 12.00	13,272	
814 cubic yds. spandrels, parapets and relaying parts of abutments, at 5.00	4,070	17,342
Three small and 1 large culverts at different points on the line, estimated in the aggregate,	6,500	
5 stop cocks, at 225	1125	
5 branches with waste cocks, at 100	500	
6 air cocks, at 150	900	9,025
		$481,016
To increase the mains so as to give them a capacity of 25 per cent extra for extraordinary demands above the average supply, will add about 9 per cent. to their cost, as given in the above estimate, and is,		29,800
		$510,816
Add for contingences and superintendence, 10 per cent.		51,081
		$561,897



Henry Tracy, C.E. del.

Lith of E.W. Bouvé Boston.

MAP OF THE VICINITY OF BOSTON,

Showing the Sources of Water for Supplying the City.

—Explanation—

A. Reservoir on Corey's Hill. B. Reservoir on Nonantum Hill. C. Reservoir on Walnut Tree Hill. D. Reservoir on Bunker's Hill.

Long Pond Aqueduct   Lines of Pipe.

CHARLES RIVER.

The first point above the flow of tide that water can be taken, for the purpose of supplying the City of Boston, from Charles River, is at the dam at Watertown. This dam is situated immediately above tide water.

The water is to be elevated to a suitable height to supply the City. Commissioners heretofore appointed, have proposed to erect pumps at the point where the water is to be taken out, and forced through a line of pipe to a reservoir on Corey's Hill. The expediency of laying a long line of pipe under the influence of a force pump, will be hereafter considered.

It is now proposed to take out the water, and conduct it, by an aqueduct of masonry, to the point where the Boston and Worcester Railroad strikes the river; cross under the Railroad to the westerly side, and terminate the aqueduct at the base of a hill a short distance above the Arsenal bridge. At this point the engines and pumps are to be located. The advantages of this plan are, 1st. Coal can be delivered on the spot, by Railroad, or small vessels from the river. 2nd. The ground is more favorable for the erections required. 3rd. Greater proximity to the City. And, 4th, the superior durability and economy of such a conduit over iron pipe. If a small quantity of water was wanted, the fourth item of advantage might be questioned. But for any quantity requiring a pipe of more than two feet diameter, it is believed that a conduit of brick masonry would cost but little more in the first construction than such a pipe, and the superior durability of a brick conduit would render it the best economy. As a larger quantity than such a pipe would furnish should be required, the superior economy of the conduit of masonry becomes more important.

The distance from the dam at Watertown to the head of Corey's Hill Reservoir, is as follows:—

Watertown to engine house—aqueduct of brick masonry, - - - - -	6,900 feet.
Engine house to summit reservoir, - - -	900 "
Length of summit reservoir, - - -	373 "
Summit reservoir to head of Corey's Hill Reservoir—iron pipe, - - - -	8,000 "
Total, - - - - - -	16,173 feet.

Equal to 3.06 miles.

PUMPING.

But little has been done in this country in raising large quantities of water by means of pumps, except in some of our coal mining districts, where, as the cost of fuel is rarely regarded, little has been done or attempted in promoting economy ; and therefore not much information which would serve our present purpose could be expected from that source. We must consequently look elsewhere to obtain extensive experience on this subject.

The Commissioners appointed to investigate and report as to the best means of supplying Boston with water, in 1837, came to the conclusion that, from the experience of pumping at the Cornish mines, it was safe to estimate 60 millions of pounds as the quantity that could be raised one foot high, with one bushel of coal. As the coal consumed constitutes the most important item of the current expenses in raising water by this process, it is important to examine the question with care.

Various reports have been made of experiments on the performance of the engines at the Cornish mines. Among the experimenters, Thomas Wicksteed, Esq., engineer of the East London Waterworks, has been (if not the most) among the most prominent. As his object was to appropriate the improvements in the Cornish engines to a purpose similar to that under consideration, an examination will be made of what he has done and recommended.

The subject is one of great interest, involving great and varied mechanical skill and experience, which can only be touched in some of its leading features in this report.

It appears from a paper presented by Mr. Wicksteed to the Institute of Civil Engineers, (London), in November, 1835, that he had visited the Cornwall mines under instructions from the East London Water Company, with a view to effect greater economy in their expenses of pumping. In this paper much interesting information is presented. In August, 1837, he presented to the Institute the result of another visit. In this he presents an experiment with an engine that raised 102,000,000 lbs. 1 foot high, with 94 lbs. of coal. So well satisfied was Mr. Wicksteed with his examinations and experiments, that he expressed his confidence that the engine he was about to erect for the London company, would raise 120,000,000 lbs. with 94 lbs. of coal.

Now, the important question first to be determined, is how far such experiments can be relied on as giving the current duty of an engine.

It is to be presumed, that where much emulation prevails, an experiment would not be allowed when the engine was not in good condition ; that the coal would be carefully selected, dry and clean ; and that there would be no unfavorable circumstance to operate against the performance.

In the same paper in which Mr. Wicksteed gives his experiments, he presents a table from the reports of Capt. Lean of eight different Cornish engines, running from 6 to 23 months. It appears to be the custom to keep a record and publish the amount of work done by the different engines at the Cornwall mines. The maximum performance of the best engine in lbs. of water raised 1 foot high with 94 lbs. of coal in this table, is 97,000,000 ; the same engine gave a minimum of 37,000,000, and an average of 66,000,000 for 18 months. The next best gave a maximum of 81,000,000—a minimum of 22,000,000, and an average of 52,000,000 for 20 months. The greatest average performance was by an engine that gave a maximum of 77,000,000—a minimum of 63,000,000, and an average of 71,000,000 for 17 months. Another engine gave a maximum of 74,000,000—a minimum of 19,000,000, and an average of 38,000,000 for 17 months. The above are the highest class of engines, except one that gave a maximum of 76,000,000—a minimum of 29,000,000, and an average of 48,000,000 for 18 months. The remainder of the table shows similar results. In a work on the Cornish engines by William Pole, published in 1844, he gives a table of the performance of the best engines from 1822 to 1843 ; from which it appears that the *average* performance of the best engine in 1843 was 60,000,000, and of the next best 53,000,000—while the maximum peformance was 96,000,000 and 107,000,000 respectively. Which shows the average to be but little more than half what is performed under the most favorable circumstances with the same engine. These statements indicate the caution with which experiments should be regarded, when they are to form the basis of estimates for the current expenses of important works. But such experiments are captivating, and doubtless Mr. Wicksteed supposed he could, in a new engine, secure a regular performance equal to the ratio of his experiments, and therefore gave the opinion that the engine he was then constructing for the East London Company, would raise 120,000,000 lbs. 1 foot, with 94 lbs. of coal. It is useful to this inquiry that we have a statement of the performance of this engine.

In a letter to R. H. Eddy, Esq., Mr. Wicksteed replies to questions in relation to the economy of pumping. The letter is dated at London, April 16th, 1845. In this Mr. Wicksteed gives a comparison showing the superior economy of his new and improved engine over the old Watt and Mandsley engine. He gives the annual quantity of water raised 100 feet high, at 80,072,223 imperial barrels of 361 lbs., with a consumption of 2,312 tons 18 cwt. and 2 qrs. of coal—say 80,000,000 × 361 × 100 = 2,888,000,000,000 lbs. raised one foot high.

2,312 tons 18 cwt. 2 qrs. × 2,240 ÷ 94 = 55,100 bushels of 94 lbs. each.

Now, $\frac{2,888,000,000,000}{55,100} = 52,413,792$ lbs. raised one foot high, with one bushel of 94 lbs. of coal.

It is very possible that Mr. Wicksteed's new Cornish engine may, on an experiment, raise what he expected—120,000,000 lbs. with 94 lbs. of coal ; but taking a year's work, he only realized 52,000,000. This was certainly a great improvement over the old engines in the economy of fuel, and both Mr. Wicksteed and the company had good reason to be gratified with the result. The bearing of this on estimates of fuel expense is too obvious to need further remark. Here is an engine made with the most intelligent attention to economy, guided by great experience, and stimulated by strong interest and high professional enterprise—the result of which shows the estimate of the Commissioners of 1837 to be too high for the capacity of a bushel of coal.

There is a difference in the economy of pumping at the Cornwall mines, as compared with the same duty for supplying a town ; but it is not necessary to follow this, inasmuch as Mr. Wicksteed has given a case directly in point, and his London engine may be regarded as the best pattern now in use for such a purpose, and he has given the actual performance for one year, which appears to have been some three or four years after the engine was first put in operation.

In the letter before mentioned Mr. Wicksteed gave an estimate for the machinery and for the expense of pumping 2½ millions of wine gallons, 150 feet high, per day for one year. The fuel in this estimate would give about 72,000,000 lbs. raised one foot with 94 lbs. of coal. As Mr. Wicksteed gave the experience of his new and improved London engine, as a specimen of what could be done, it is presumed that he has committed an error in his estimate of coal, as appears by the following calculation.

$\frac{2,888,000,000,000}{8.35\times100} = 3,458,682,634$ wine gallons per annum. And $3,458,682,634 \div 365 = 9,475,842$ gallons per day raised 100 feet $= 6,317,228$ gallons per day raised 150 feet high. (It is not material to the calculation whether the work was done by one or more engines.)

Now, as 6,317,288 : 2,313 : : 2,500,000 : 915 tons of coal required for one year's consumption, instead of 657 tons, stated in Mr. Wicksteed's estimate for Charles river, as required for 2,500,000 wine gallons.

It is proposed to raise the water sufficiently to deliver it into a reservoir at Corey's Hill, 121 feet above tide. This elevation is taken, in order to bring a comparison with the result from other sources. To do this, it is proposed to elevate the water by the pumps to a level 140 feet above tide. Allowing for incidental loss of head, that will occur, mostly, in discharging the water into a small summit reservoir, there may be assumed to be about 15 feet effective head on the pipes, to carry the water to Corey's Hill. The fuel required to raise 2,500,000 gallons per day, for one year's consumption, taken on the datum of the London engine, will be as 150 : 915 : : 140 : 854 tons.

The new steam water works erected during the year 1844, to supply the districts of Northern Liberties, Spring Garden and Kensington—lying north of and adjoining the city of Philadelphia—may afford some valuable facts and inferences, pertinent to this part of our subject.

They are situated on the Schuylkill, about one mile above the "Philadelphia water works" at Fairmount, and derive their water from the pool formed by the dam at the latter place.

The actual cost of these works, agreeably to a published statement of the watering committee, issued soon after their completion—under date of January 15th, 1845—was as follows.

1st.—Real estate, including 8 acres on the Schuylkill—the site of the works—and 13 acres 59 perches—the site of the reservoir, -	$15,234 86
2nd.—Buildings, including engine house and chimney, - - - - - -	31,453 82
3rd.—Ascending mains, and connecting with mains and basin, - - - - -	32,860 72
4th.—Engines, boilers and pumps—(made by Merrick and Towne, Philadelphia,) -	28,142 90
5th.—Reservoir, including labor, materials and fencing, - - - - - - -	27,223 75
6th.—Damages, fees of attornies, appraisers, and incidental charges, - - - - -	8,857 37
7th.—Branch railroad, to bring coal from Columbia railroad to the works, - - -	270 45
8th.—Salaries of superintendent, engineer, clerks, treasurer, messenger, and all other officers employed during the construction of the works, - - - - - -	2,529 17
9th.—Sundries, not embraced in the foregoing items, - - - - - - -	1,206 11
Total, - - -	$147,779 15

Besides the above, there were paid by the two districts owning the works, 71,777 29 for making connections, by mains, with various parts of the respective districts, in order to unite the new works with the old mains and pipes laid in the same district while deriving their supply from the Fairmount works.

This expense, however—being incidental to the *distribution*, and not the *elevation* of the water—must be omitted in estimating the cost of the latter operation.

The engines at these works are of the following dimensions.

The steam cylinders are 3 feet in diameter and 6 feet stroke. They are on the low-pressure, expansive, condensing principle—using steam of at least 15 lbs. pressure above the atmosphere.

The boilers—of which there is one to each engine—are 12 feet long, and the exterior shells 8 feet in diameter ; having two sets of return flues, carrying the flame—or hot gas—after passing beneath the bottom, or lower arch of the shell, first through a set of three 15 inch tubes towards the front, and then back again through ninety-four $2\frac{1}{2}$ inch tubes, to pass into the chimney.

Computed from these dimensions, the whole heat-absorbing surface offers to the flame and hot gas, an area of about 1027.5 square feet of which—

The lower arch contains, - - -	150.8
The 3 large tubes, - - -	138.4 and
The 94 $2\frac{1}{2}$ inch tubes, - - -	738.3
Making in all, - - - -	1027.5 square feet.

The boilers are completely enclosed with brick work. The steam cylinders are encased in wood. The pumps are 18 inches in diameter and 6 feet stroke, having their axes in the same vertical lines with those of the steam cylinders, beneath which they are placed. The piston-rods of the steam cylinders work through and through both heads, and thus carry the main steam pistons on the same rods with those of the pumps. Above, they are connected by walking beams and shackle bars with massive fly wheels. This description makes it evident that the *engines* and *pumps* must always move with the same velocity.

The ordinary rate of motion of these engines is 13 revolutions per minute, and consequently the pistons move at the rate of 156 feet per minute. The pumps are double acting force pumps, driving water by the upward as well as the downward motion. Hence they raise $1.5\times1.5\times.7854\times12=21.205$ cubic feet at each revolution of the engine. This is equal to 160.04 wine gallons or 1325.325 lbs. ; and for 13 double strokes per minute, will be 17,229.225 lbs. per minute ; from which deducting for the bulk of the piston rod ($2\frac{1}{2}$ inches in diameter) on the upward stroke $.208\times.208\times.7854\times6\times13=2.65$ cubic feet= 165.625 lbs.—there is left the weight of water actually raised per minute, equal to 17,063.59 lbs. This for one hour's work is 1,023,815.4 lbs. or 122,789 wine gallons of 8.338 lbs. per gallon.

By the obliging engineer, Mr. J. Pyolin, who has charge of the engines, and by the register of these works, Mr. Fisler, we have been kindly furnished with statements of the amount of pumping daily performed from the 1st of January 1845, to the 21st of September inclusive ; and from the 1st of April to the latter date, with the exact quantity of coal burned each day. From these data, it appears that the following numbers of hours' work have been performed, and tons of coal consumed during the several months, and that the total expense for fuel at $3.20 per ton, the price paid at the works, is that contained in the last column of the following table.

Table showing the Fuel consumed, duty performed, and expense of Fuel employed, at the Northern Liberties and Spring Garden Water Works.

Months.	Days in the month	Hours work performed by both engines during the month.	Tons of coal consumed during the month.	Pounds of coal consumed to perform one hour's work.	Total number of wine gallons raised 115 feet high during the month.	Average number of gallons raised per day.	Pounds of water raised 1 foot high by 94 lbs. of coal.	Expense of coal per month at $3,20 per ton.
January	31	531	No ac't taken	No ac't taken	65,206,000	2.103,400		
February	28	478	"	"	58,698,000	2,096,360		
March	31	687	"	"	84,362,940	2,721 385		
April	30	786	180.074	513.190	96,520,000	3,217,330	21,567,800	576.23
May	31	825	190.175	516.354	101,309,000	3,268,040	21,435,600	607.16
June	30	928	215.765	520.812	113,957,400	3,798,580	21,252,100	690.44
July	31	1078	237.270	493.030	132,377,300	4,270,237	22,449,400	759.27
August	31	920	201.590	490.830	112,975,000	3.644,360	22,550,250	645.08
September	21	607.5	132.940	490.180	74,600,400	3,552,400	22,580,160	425.41
		Tot. tons	1157.814	Total galls.	631,739,100	Average	21,972,551	$3,703.58

From the above table it appears that the Philadelphia engines, in 174 days, have, by the consumption of 1157.814 tons of anthracite, raised an aggregate of 631,739,100 gallons of water to an average height of 115 feet, (the medium level of the upper reservoir) ; and consequently they would have required, to raise the same quantity of water 140 feet high, $(140 \div 115) \times 1157.814 = 1409.06$ tons. The average number of gallons actually raised per day, has been 3,630,690 ; at which rate 2,500,000 gallons per day would have required in the same time, 970.2 tons, and in 365 days would demand 2035.2 tons.

The coal used at the Northern Liberties and Spring Garden Water Works, is the Broad Mountain white ash anthracite, similar in character and evaporative power to the Forest Improvement anthracite which was among other coals tested in 1843, under authority of the navy department of the United States.

From the report of the experiments then made, we learn that the evaporative power of one pound of this anthracite was found adequate to convert 10.06 lbs. of water at 212° into steam at the same temperature ; and that its relative power, as compared with the best Cumberland coal tested, was 940 to 1,000. Newcastle coal was found to have a power, as compared with the same Cumberland standard, of 809 to 1,000 ; Midlothian, Va., coal, (average of 4 samples) 808 ; Pictou coal, (average of 2 samples) 789 ; Sidney coal, 747 ; Liverpool coal, 733 ; and Scotch coal, 649.

From this it is easy to calculate how much of each of these kinds of coal would be adequate to perform for one year, the work of pumping 2,500,000 gallons per day to the height of 140 feet, if used under boilers like those at Philadelphia, and to drive engines of similar construction. The computation shows the number of tons to be as follows :—

Of Cumberland, Md., (Atkinson and Templeman's)	1913.1
Broad Mountain anthracite, as above, by actual use for 6 months,	2035.2
Newcastle, (English)	2364.7
Midlothian, (Va.)	2367.7
Pictou, (Nova Scotia)	2424.7
Sidney, (" ")	2561.0
Liverpool,	2609.9
Scotch,	2947.8

As all these coals are believed to be occasionally, perhaps constantly, found in the Boston market, it will be easy to decide, according to the price they may severally bear, which ought to be preferred for the works now contemplated.

It has been represented to us (not however by any one in charge of, or connected with these new Philadelphia works) that the above quantities of water calculated to have been raised into the reservoir, are much beyond the quantities actually delivered there, owing, as was alleged, to the defective action of the pump valves. This may possibly be so, and it is a defect liable to exist in all systems of pumping, whether by steam or by water. But admitting it to be in any degree true, it does not at all affect the present question ; since whether the pumps forced a part only, or the whole of their successive charges of water into the upper reservoir, they must, as long as they furnished *any water* to the latter, have constantly worked against a resistance equal to a column of water 115 feet high. So that it is immaterial to the present inquiry whether, with this pressure they sent the whole to the basin above, or a part back, through the leaks of the valves, into the settling basin below. Certainly the duty performed by one Cornish bushel of 94 lbs. of coal, that of raising 22 millions of pounds one foot high, is not so great as to excite a suspicion that any important *over-estimate* of power has occurred from this cause.

Had the pumps been in the most perfect order, the engines would have made neither more nor less revolutions per minute than they have done. Both the pistons and the valves of pumps are liable to give over-estimates of the weight of water actually raised, whenever they become leaky ; but as long as they work against a given head of pressure, the duty of fuel, where that is the moving power, is pretty accurately represented by their rate of motion. Mr. Henwood found at the Huel Towan Cornish engine, the actual quantity of water delivered to be 92.4 per cent. of the quantity computed from the motion of the pumps.

It will be seen that the duty of 94 lbs. of coal has increased since July, and that it has, in the last 3 months, been between 4 and 5 per cent. more than in the preceding 3 months. This is believed to be attributable to some alterations in, or addition to, the cut-off valves regulating the degree to which the expansive principle is carried.*

The table above given of monthly supplies with their daily averages for the different parts of the year, confirms in a most striking manner, what we have said in regard to the necessity of constructing apparatus intended to supply large cities with water, whether the same be simple conduits or machines for pumping, on such a scale as to be competent to supply, on occasion, an amount greatly beyond the *average* demand.

From the 1st of January to the 21st of September, 264 days, the aggregate pumping was 839,706,040 gallons, or an average of 3,180,700. In the month of July, instead of this average—which we may remark is above what it will be for the whole year

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* In Cornish engines the steam is cut-off at from 1-6 to 1-8 of the stroke, and enters the cylinders with from 30 to 40 lbs. pressure per square inch. It will be observed that the extent of circuit which in the boilers of these Philadelphia engines the gases traverse, is but from 30 to 36 feet, while in the Cornish boilers it is sometimes more than 270 feet, affording the gases full opportunity to expend all their disposable excess of temperature, above that of the steam contained in the boiler. In Cornish boilers, the fire is entirely *within*, and not *under*, the outer shell, and is therefore surrounded by water.

—the districts required, as seen in the table, 4,270,237 gallons daily ; or 25.5 per cent beyond the average daily supply. It will probably be found nearly 30 per cent. beyond the general average at the end of the year. And in reference to this relative supply for different seasons of the year, we may, as before, remark that whether any leakage took place at the valves or not makes no difference—since it may have occurred, if at all, in the early as well as in the later months of the year. Had the districts supplied by these works never before been furnished with water through hydrants, it might possibly be supposed that the gradual increase observable in the 7th column, from January to July, had been due to a gradual increase of the water renters. But it will be recollected that these works were erected to supply a district which had for years been supplied from the water works at Fairmount, and that on the 1st of January of the present year, 7683 tenants belonging to these districts, withdrew from the old works and were immediately supplied by the new. In fact, not more than 500 new tenants are understood to have been added, up to the 1st of August—making in all about 8,183.

We have seen that the annual cost in coal of pumping 2,500,000 gallons daily, at the new works, is 2035.2 tons of the best Broad Mountain anthracite ; and if we estimate this in Boston at $6 per ton, delivered at the works, we shall have the total annual expense of fuel $12,211,20—representing a capital of $203,520.

In view of the price of coal at Boston, a computation will be made for an engine requiring the least quantity of coal, for the work, as the best economy. It may be matter of doubt whether an engine constructed here on the same plan as the improved engine at London, would realize the full extent of economy in fuel that is obtained there. Though constructed on the same plan, the nice adjustment of all its parts, which has been the result of long experience there, could hardly be carried to the same extent, without considerable experience here ; and, therefore, reasonable caution would not warrant an estimate on the full extent of economy obtained there. We have seen that 854 tons would be required on the data of the London engine, and if the estimate is based on 950 tons, as the annual consumption to raise 2½ millions of gallons per day, it is as small a quantity as will probably be realized in practice. This is less than half the quantity required by the Philadelphia engine. As the kind of coal used is not given by Mr. Wicksteed, some degree of uncertainty must rest on this computation. If it were Newcastle coal, the value for equal weight would be something less than the average of anthracite ; if Welsh coal were used, the value would be something greater for equal weight than the average of anthracite. In allowing a ton of anthracite to be equal in value to a ton of the coal used in London, there will, therefore, be a liability to some degree of error, which cannot now be strictly determined It is believed, however, that it will not be very important.

In making the computation for the power of the engine, there is one point in which it is proper to examine the statement in the letter of Mr. Wicksteed, before referred to. His computation is for the power required to lift so much water, without provision for the friction of the pumps, which it is presumed was an oversight. He was fully aware of the importance of such provision, as he details an experiment made by himself, in one of his papers, presented to the Institute of Engineers in 1837, in which he found the total friction of the engine and pump to be nearly half of the total power of the engine. In the Fairmount Works at Philadelphia, it is calculated that 40 gallons on the wheel are required to raise one gallon 96 feet into the reservoir. If there were no friction in the pumps, the work should be done for about 20, instead of 40 gallons, for one raised to the reservoir. The power of the engine should be sufficient to overcome its own friction and perform its rated amount of work ; but the friction of the pumps must be provided for in the enlarged power of the engine. The friction of the pumps would probably be as great as that of the engine ; but supposing, for computation, that it is equal to 2-5 —then 1-5 must be added to the power of the engine, and the computation will be as follows, for raising 2½ million wine gallons, per day of 12 hours.

A wine gallon weighs 8.35 lbs.—3,950 gallons raised one foot per minute, is equal to one horse power. It is required to raise 3472 gallons per minute.

$\frac{3,472\times140}{3,950}=123$ horse power.

Add friction of pumps 1-5, and the engine should be 123+1-5 × 123=147½ horse power ; which is 16 per cent. more power than is calculated for, in the letter of Mr. Wicksteed before referred to.

In the absence of experience in this country, it will be difficult to arrive at a satisfactory estimate of the expense of such an engine as is contemplated, with the fixtures necessary for the object. There is a material difference in the estimates given by the Commissioners in their report of 1837, and that given by Mr. Wicksteed in his letter to Mr. Eddy. It would be supposed that work, composed so much of iron, would be obtained at less expense in England than in this country. The difference in the estimates may be accounted for, in part, by the item of stand-pipe, which the Commissioners did not consider necessary, and which is included in the estimate of Mr. Wicksteed. That the work could be done without a stand-pipe, there is no doubt ; but whether it could be done as safely and economically, is questionable. At Philadelphia they do not use a stand-pipe, and this may be one cause of the small amount in the performance of their engine, which forces the water about one mile. Air chambers will go far to equalize and correct the natural inequality in the operation of pumping ; at the same time it can hardly be doubted that some irregularity will be felt in the motion of the water in the pipe, and when the pipe is of great length, it will more or less affect the useful result of the engine. In the paper presented to the Institute in 1837, Mr. Wicksteed holds the following language on this point :—" In most cases, therefore, where the pressure under which the engine works is known, *and it ought to be known*, I should recommend the adoption of a stand-pipe, the water rising from the engine in one pipe, and flowing over either at the top, or through communicating pipes, at any level required, into the descending pipe communicating with the mains in the district. The engine might then work under a regular load; any fracture of the pipes in the district would not affect the engine; its only liability to accident being from the fracture of one leg of the stand pipe, which of course could be provided against by extra strength of materials." As the experience of Mr. Wicksteed is in accordance with what might be anticipated, from the peculiar nature of the operation of pumping, it is not prudent to discard it. It is therefore proposed to approximate to this method, by laying a conducting pipe of extra thickness of metal, from the pumps, directly upon the slope of the hill, to a summit reservoir into which the water is to be raised from the pumps. It is supposed that this sloping pipe (900 feet in length) and the summit reservoir, may be constructed for Mr. Wicksteed's estimate for stand pipe alone. The expense of a structure to support a *stand* pipe, would probably equal the expense of the extra length of *slope* pipe and the summit reservoir. It is not proposed to construct filter beds, and as the reservoir is provided for with the slope pipe, the item of reservoir and filter beds in Mr. Wicksteed's estimate, may be left out. From the summit reservoir, pipes are to be laid down to the reservoir at Corey's Hill.

The cost of engine and other machinery for raising 2,500,000 wine gallons, on the data furnished by Mr. Wicksteed, will be as follows :—

Engine and boilers,	£7,500	£8,700
Increased power required as before stated, 16 per cent.	1,200	
Engine house (without addition) Boiler house and chimney,		3,700
Sundry works (supposed to include pump)		2,000
Stand, or slope pipe and summit reservoir,		3,300
Contingencies and engineering,		4,700

£22,400=$108,316.

It has been observed that this estimate is higher than that presented by the Commissioners in their report of 1837. The latter was made without the benefit of definite experience on this subject—the former from long and familiar acquaintance with it. Unless, therefore, it should appear that some important local advantages for such work exist in Boston, over London, the estimate of Mr. Wicksteed should be taken as the basis most prudent to rely on. It can hardly be supposed that such a work could be executed at this time in Boston, at a less expense than in London. Whether any diminution in expense could be made, by a modification of any important parts, must depend on further investigation and experience. There does not, however, appear to be any such warrant for this, as would justify a reduction ; and on the whole, Mr Wicksteed's estimate must be regarded as affording the most definite and reliable information at command, and will therefore be taken as a basis, correcting such errors, or oversights, as have been considered. It is proper to remark that although Mr. Wicksteed's statements are, in some respects, in error, the errors are such as would be likely to occur in an offhand letter, not written exactly under professional responsibility ; and do not, when considered in connection with what he has before published, impair the value of the main facts and estimates contained in his useful and interesting communication. It is also proper to remark that Mr. Wicksteed's views on the subject of raising water by steam power, have been controverted by other English engineers engaged in similar duties. In the British Parliamentary report of the Commission on the health of towns (1844) Mr. Wicksteed gave testimony on the subject of raising water for the supply of towns. Mr. Hawksley, an engineer of long experience and high standing on this subject, was also examined. When Mr. Hawksley was called upon in relation to the testimony of Mr. Wicksteed, he said ;—" I wish it to be understood that I do not concur in Mr. Wicksteed's mode of estimating the cost. It is quite true that the expense of pumping forms, in nearly all cases, but a small portion of the total charge to the tenant ; but Mr. Wicksteed's statement would afford a result fallaciously low. Mr. Wicksteed's engine uses less coal, but employs more capital, so that the saving is rather apparent than real." In giving the comparative economy of engines, Mr. Hawksley says ;—" By the use of the Cornish engine, in place of the Watt & Boulton engine, a saving of nearly 0.2d per 1000 gallons would be effected in the fuel account, but the capital account would be increased fully 0.1d ; the resulting economy to set against increased risk would, therefore, not exceed a 29th part of the whole charge. I should therefore, be in general disinclined to recommend the adoption of the Cornish engine, except, perhaps, in the case of works of such great extent, and so arranged, that the public would not be inconvenienced by the stoppage of a single engine."

Other engineers have expressed the opinion that the Cornish engines would not realise the same economy in raising water for a town, as in the peculiar duty of raising water from the Cornish mines—having advantages in the latter case that could not be had in the former. If, however, reliance can be placed on

Mr. Wicksteed's statement of the performance of his improved engine for one year, there does not appear sufficient grounds to throw aside his estimates. The greatest cause to doubt their sufficiency, appears in the difficulty of obtaining such an engine manufactured in this country, at the same expense ; and importation would add heavy charges to the cost in England. Importation, it is presumed, would not be considered expedient ; and it is most probable that some modification of Mr. Wicksteed's plan would be expedient in the erection of the works, that would change somewhat the economy in the first cost, and also in the current annual expenses. It is believed, however, that the aggregate of original and current expenses, would not be found to differ materially from his statement—corrected in some particulars, as before mentioned, and such as may be required, from the difference in local circumstances, in the current expenses.

GAUGING OF CHARLES RIVER.

As already stated, the gauging of Charles River was continued for 8 weeks of the dry part of the summer. For this purpose the sluice formerly established by the proprietors of mills on that stream near Newton Upper Falls, was employed to determine the quantity of water passing that place. This sluice is 330 feet long, 40 feet wide and about 2 feet deep. Its sides are stone walls, laid without cement, and therefore not remarkably smooth. Its bottom is horizontal, and at distances of 30 feet apart are laid sills crossing the sluice, level with the gravel of which the bottom is composed. Through this sluice, at low stages of the river, all the water passes, being guided to it by a dam of about the same height as its walls. The observations at this place were mainly intended to embrace the period of *low water* — it not being doubted that, at *high* stages, the river furnishes an abundant supply.

Having ascertained by several series of careful measurements, that the 5th sill from the lower, or down-stream, end of the sluice gave the average depth of the whole series of sills, we adopted this as the place for gauging the depth of the water ; and the velocity of flow was determined by means of a pair of waxen balls of equal size, one of which was made just heavy enough to sink in the water while moved by the stream, and the other was light enough to sustain the first and prevent its touching the bottom. In taking the velocity of flow, these balls were thrown into the stream some 15 or 20 feet above its entrance into the upper end of the sluice, and permitted to acquire the velocity of the water. A line was stretched across the upper end of the sluice, and a foot-plank so placed across, that, in whatever part of the breadth of the stream the balls were floating, the eye of the observer could be brought immediately over it at the instant it passed under the line to enter the sluice. A time-keeper marking seconds, served to note the time of this passage. The observer then proceeded down the sluice and at the lower end, by a similar arrangement of a line and foot-plank, was enabled to mark the time of exit of the balls from the channel. As the sides of this sluice are formed of walls of stone laid without cement, they of necessity, caused some obstruction to the water passing immediately in contact with them. By trial to ascertain this point, when the velocity was low, and the balls were made to pass very nearly in contact with the wall, it was observed that they would occasionally be brought almost to rest in the small eddies created by projecting portions of the masonry. This retardation did not, however, extend beyond 3 or 4 inches from either wall, and will not materially interfere with the general results ; but whatever effect it did produce was of course calculated to give a deficiency of water, or a quantity below the amount determined by the gauging. This deficiency did not, probably, amount to more than 1 or 2 per cent. The difference between surface and bottom velocities was provided against by the arrangement of the two floating bodies, which, being compelled by the connecting line to travel together, gave of course the average velocity.

We annex the following table of the average flow of water in Charles River at the place above stated, by the mean of several sets of observations taken each day. They generally commenced on each morning, before the starting of the mills below, and when by the accumulation of the previous night, the back water came so high as to retard, in some measure, the velocity of flow through the sluice, and to increase its ordinary depth. From this time the experiments were made at intervals through the day, terminating about the time when the mills were again stopped.

The number of sets of observations taken each day, and the hour of commencing and of closing them, are inserted in appropriate columns.

It will doubtless be remarked that considerable diversities existed in the flow of the river on consecutive days ; this was no doubt owing, in some measure, to the different rates at which the water was used at the mills higher up on the river — as at Dover, Natick and elsewhere. The exceeding sluggishness of the stream prevents these differences in the rate of discharge above from being felt immediately, or indeed, until after some days have elapsed. On Sundays, the river is a long series of pools without motion, except that of the portion of water which happens to be *in transitu* from an upper to a lower pool.

Several rains fell during the time of our gauging, and temporarily raised the river. The effect of these is sufficiently observable.

Daily flow of water in Charles River, as gauged above the Upper Falls, Newton, from August 21*st, to October* 14*th*, 1845.

AUGUST.

Date.	No. of sets of Observations.	Time of commencing and terminating Observations.		Total No. of galls. disc'd each day.
		Beginning at	Ending at	
21	4	6.25 A. M.	7.00 P. M.	20,298,752
22	5	5.25	7.00	22,574,052
23	5	5.25	7.00	25,271,860
24	5	5.25	7.00	42,897,150
25	5	5.25	7.00	69,485,166
26	5	5.25	7.00	40,334,888
27	5	5.25	7.00	34,377,284
28	5	5.25	7.00	39,008,590
29	5	5.25	7.00	38,863,930
30	5	5.25	7.00	33,263,832
31	5	5.25	7.00	22,689,390

Daily flow of water in Charles River, etc.

SEPTEMBER.

Date.	No. of sets of Observations.	Time of commencing and terminating Observations.		Total No. of galls. disc'd each day.
		Beginning at	Ending at	
1	5	5.25 A. M.	7.00 P. M.	20,211,754
2	5	5.25	7.00	23,817,872
3	5	5.25	7.00	22,482,704
4	5	5.25	7.00	22,616,180
5	5	5.35	7.00	24,101,222
6	5	5.25	7.00	23,140,362
7	4	5.25	4.00	20,370,142
8				
9				
10	2	4.30 P. M.	6.30	14,045,900
11	5	5.30 A. M.	6.30	16,790,360
12	5	5.20	6.25	18,972,980
13	5	5.15	6.25	19,658,040
14	4	6.00	6.30	16,969,652
15	5	5.20	6.05	9,367,100
16	5	5.30	6.10	10,069,090
17	5	5.40	6.10	17,752,916
18	5	5.40	5.50	20,355,930
19	5	5.45	5.50	18,566,920
20	5	5.40	5.55	20,586,064
21	2	6.10	9.10 A. M.	21,506,770
22	5	5.35	5.55 P. M.	12,116,889
23	5	5.45	5.55	19,617,538
24	5	5.45	6.00	22,096,016
25	5	5.40	5.50	21,741,854
26	5	5.55	5.50	23,334,132
27	5	5.50	5.45	22,226,012
28				Sunday.
29	5	5.45	6.15	13,913,892
30	5	5.30	6.10	19,099,878

Daily flow of water in Charles River, etc.

OCTOBER.

Date.	No. of sets of Observations.	Time of commencing and terminating Observations.		Total No. of galls. disc'd each day.
		Beginning at	Ending at	
1	5	5.50 A. M.	6.00 P. M.	23,262,558
2	5	5.40	6.00	22,398,120
3	5	5.40	6.00	22,550,180
4	5	5.50	5.50	24,043,614
5				Sunday.
6	5	5.55	5.50	30,033,566
7	5	5.50	5.55	39,895,524
8	5	5.45	5.50	39,838,792
9	5	6.00	5.45	39,576,906
10	5	6.13	5.35	48,977,908
11	5	6.20	5.40	46,607,046
12				Sunday.
13	5	5.50	5.45	43,169,840
14	1	5.50	5.54 A. M.	45,845,780

We have seen published statements of various estimates as to what this river would furnish per day. Some have placed it as high as 30,000,000 gallons. It will be seen by the actual gauging on the 15th and 16th of September, that it did not, on the average of the two days, then discharge one third of this quantity ; and that, for the whole month of September, its average daily flow was 19,108,451 gallons — or less than two thirds of the published estimate. The lowest gauging stated by Mr. Crehore (cited by Mr. Wilkins in his "Further Remarks," &c.) viz. that of July 26th, 1841, was 31 3–7 cubic feet per second, equal to 20,366,640 gallons per day.

When reduced to its lowest stage during our gauging, Charles River supplied 9,367,100 gallons.* By the statement of Mr. Hurd, one of the proprietors of the paper mills at Newton Lower Falls, we learn that in the latter part of October, after our observations terminated, the water was as low as it had been at any time in September — and that, in August, it had, at its lowest stage, been as low as in either of the other two months. Of this testimony we have no reason to doubt the correctness, as Mr. Hurd has daily occasion to observe the rate of supply to his manufactory.

That the present has not, thus far, been a year of extraordinary drought, is proved by the rain gauges of the Cambridge Observatory, kindly furnished to us by Mr. Bond, and that of Dr. Hale kept at his residence in Boston. The former gives a total fall from January 1st to October 31st, 1845, of 33.259 inches, and the latter 30.13 inches; while for the same 10 months, Dr. Hale's average for 22 years, is 32.67 inches. The average therefore of the rain which has fallen at the two localities is 31.694 inches — or only .976 of an inch, equal to about three per cent. less than the general average for a long series of years. For the months of August, September and October of the present year, there have fallen the following quantities of rain — viz. —

At Boston in Aug.	1.890	in Sept.	2.830	in Oct.	3.920	total	8.640
" Cambridge "	2.527	" "	2.584	" "	4.218	"	9.329
" Spot Pond "	3.325	" "	2.545	" "	4.300	"	10.170
" Long Pond "	3.800	" "	2.600	" "	4.007	"	10.407
Averages	2.885		2.640		4.111		9.636
Boston averages in 22 years	3.370		3.290		2.970		9.650

The months of January, February and March of the present year witnessed the fall of an unusually large amount of rain. By the Cambridge observations it was 12.597 inches, and by Dr. Hale's, at Boston, 11.72 inches — while by the average of 22 years' observations at the latter place, Dr. Hale found it 9.8 inches. Hence the Cambridge gauge gives, for those 3 months of 1845, an excess above the mean of 28.5 per cent., and the Boston gauge an excess of 19.6 per cent. It would have been matter of surprise, therefore, had not the ponds we examined been uncommonly full in the early part of the year.

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* On Monday, Sept. 15th, the average depth of water over the sills, by 5 sets of observations, was .6726 of a foot =8,071 inches; the average time in which the floats passed the sluice was 11 minutes 46 seconds. Hence the average velocity per second was .5373 foot, giving 14,454 cubic feet per second, or 9,367,100 gallons per day — as seen in the table. On the 16th of the same month, the average depth, by 5 sets of observations, was .6776 foot

As already intimated, the recurrence of seasons of copious winter rains, like that now referred to, must not be relied on. And as pertinent to this subject, we beg leave to cite the following extract of a letter to one of the Commissioners, under date of October 28th, 1845, from Frederick Graff Esq., the able and assiduous Superintendent of the Fairmount water works at Philadelphia. — "I will remark that previous to our "building the dam at Fairmount, the Schuylkill was calculated "to flow, for 24 hours, upwards of 400,000,000 gallons in dry "seasons; which, after the dam was built, was found to be materially in error. On the 27th of July, 1845, the water was "drawn down below the combing of the dam 3 inches — at "which time my calculation gives, for the whole flow of the "river, only 187,000,000 gallons. The night following we had "rain which raised the water on the dam one foot. — I take "leave to mention the above as a hint, that you may make safe "calculations *for low water.* High rivers will take care of themselves."

On the supposition that the work may be constructed for pumping water from Charles River, in such a manner as to admit of extension, from time to time, the estimates will be formed on that plan. That is to say,

1st, To provide for raising and delivering into Corey's Hill reservoir 2,500,000 wine gallons per day.

2nd, For raising and delivering into the same 5,000,000 gallons.

3rd, For raising and delivering into the same 7,500,000 gallons.

The size of pipe to convey the water from the engine, to Corey's Hill reservoir, will depend on the time the pumps work. All the computations, thus far, have been based on working 12 hours per day. The Commissioners, in their report of 1837, propose to work 20 hours out of 24. Mr. Wicksteed makes his computation on working 12 hours, which is supposed to be the London practice. To do the work in 12 hours would re-

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8,1312 inches; the average time of passing the sluice was 10 minutes 28 seconds, and the velocity .5733 foot per second — giving 15,538 cubic feet per second, or 10,069,090 gallons per day.

quire the pipe to be 67 per cent. greater in capacity for delivering water, and a corresponding increase in the power of the engine. To do the work in 12 hours requires a greater outlay, than if it were extended to 20 hours. The current expenses would be less for the work done in 12 hours; men are not usually disposed to work nights at the same rate as they work by regular day; and there are more contingent expenses. Working in the night will involve greater danger from accident. It is not usual in the prosecution of any business, where no peculiar necessity requires it, to work during the night; at this time men and machinery, in all the general operations that admit it, are, by common consent, allowed to rest. It is, on the whole, believed to be most proper to compute the estimate mainly on the basis of working 12 hours per day.

If this source be entirely, or mainly, relied on to supply the city, there should be two pipes, in order to give facility for repairs, when any failure takes place, without wholly stopping the supply.

The capacity of pipe for the largest quantity (7,500,000 gallons) per day, discharged in 12 hours, must be sufficient to furnish 23.25 cubic feet per second. But this may be modified by the summit reservoir, from which the water may run after the pumps stop work. By adding to the expense of this reservoir, it may be enlarged so as to furnish the pipes with water during say 10 hours each day, which — on the supposition that the pumps will be worked 14 hours — will reduce the quantity, per second, to 11.63 cubic feet. A pipe of twenty inches diameter, 8000 feet in length, under a head of 15 feet, will discharge according to Prony's formula, 5.82 cubic feet per second. To provide for an occasional demand of 25 per cent. (see remarks on Spot Pond) over the average supply, a 22 inch pipe would be required. By Robison's formula, a 23 inch pipe would be required. It has been observed that the capacity of pipe diminishes by the action of water on the inner surface. This, together with the fluctuation that will, more or less, be experienced in the summit reservoir, renders it proper to adopt a 24 inch pipe as the least size that will fully provide for half this line.

As before observed, it is not prudent to trust to one main for the supply. Two mains are therefore proposed, that will be sufficient for the whole discharge. This method would require one main to be put down for the first, or 2 1–2 million quantity, and the second for the 5 million quantity. If it should be desired to put a pipe down only sufficient for each quantity (2,500,000 gallons) it would a little increase the aggregate expense, but would be more economical for the smaller quantity.

Estimated expense of raising and conducting 2,500,000 gallons of water per day from Charles River at Watertown, to a Reservoir at Corey's Hill, 121 feet above tide.

Masonry, Conduit from Watertown to Engine House, as follows:

BULKHEAD OF AQUEDUCT—

30 cubic yards concrete in foundation at $5,50	$165	
260 cubic yards hydraulic stone masonry at $6	1560	
25 cubic yards cut stone in coping, sills, jambs and lintels at $20	500	
Building enclosing gates and bulk head	700	
Brick pavement in chambers,	10	
Screen frame, copper screen, 3 composition gates with fixtures — estimated.	500	$3,435
Repairing and improving dam, estimated	2,000	
35,000 cubic yds. excavation at 15 cts.	5,250	
45,000 cubic yds. embankment and back filling at $12 cts.	5,400	
2,100 cubic yards protection walls at $2,50	5,250	
Removing small brick building	250	
3 culverts, estimated in aggregate	1,500	
Carrying aqueduct under railroad	1,000	
6900 feet brick conduit (for details see Long Pond estimate) at $5,25	36,225	
1500 feet extra stone and concrete (for details see Long Pond estimate) at $5	7,500	
Waste wier near lower end, estimated	1,500	
Pumping chamber at engine house, estimated	1,300	
Extra expenses caused by flow of tide in work	2,000	
Extra expense of summit reservoir to equalize flow of pipes	5,300	74,475
Iron pipe from summit reservoir to Corey's Hill reservoir (24 inches diameter) 8000 feet at $7.43 — exclusive of trenching and filling	59,440	
Trenching and filling, 8000 feet	6,640	
Carried forward	$66,080	$77,910

Amount brought forward	$66,080	$77,910
2 culverts and crossing road and railroad	1,700	67,780
		145,690
Add for contingencies and superintendence — 10 per cent.—		14,569
Total, exclusive of engine and pumps		160,259
One Cornish steam engine, pumps, buildings, foundation, slope pipe, summit reservoir, and all appurtenances complete (details before given)	108,316	
Extra engine, building and contingencies (ditto) same data — 12,300 (16 per cent. of 7500) = £13,500,=	$65,340	173,656
Total to Corey's Hill reservoir for 2,500,00 gallons per day		333,915
Stop, air, and waste cocks (omitted in the proper place) estimated in the aggregate		1,100
Total		$335,015

Estimated cost for works to procure from Charles River 5,000,000 *gallons per day.*

Masonry, conduit and appurtenances, as per preceding estimate	$72,610	
Extra expense (to equalize flow of water in pipes) in summit reservoir	10,600	
Iron pipe — double the preceding estimate	135,560	218,770
Add for contingencies and superintendence, 10 per cent.		21,877
Total exclusive of engines and pumps,		240,647
Two Cornish engines, buildings, foundation, pumps, &c. as in preceding estimate	173,656	
One spare Cornish engine, pumps, building, &c. as in preceding estimate (108,316) deducting for sum-		
Carried forward	$173,656	$240,647

Amount brought forward	$173,656	$240,647
mit reservoir $4000	104,316	277,972
Total for 5,000,000 gallons daily		$518,619
Stop, air, and waste cocks (omitted in the proper place) estimated in the aggregate		2,200
Total		$520,819

Estimated cost of works to procure from Charles River 7,500,000 *gallons of water per day.*

Conduit of masonry, and extra on summit reservoir, and iron pipes — same as estimated for 5,000,000 gallons		240,647
Two Cornish engines with buildings and other appurtenances, same as estimated for 2,500,000 gallons	173,656	
Two Cornish engines with buildings and other appurtenances, (providing in this one spare engine) deducting for summit reservoir and adding expense of slope pipe—making $3000 to add	176,656	350,312
Total for 7,500,000 gallons daily		$590,959
Stop, air, and waste cocks (omitted in the proper place) estimated in the aggregate		2,200
Total		$593,159

In estimating the annual expenses of pumping, no provision is made for the office of Superintendent, except as provided for in the first engineer. A general Superintendent will be required, for the care and management of the works when in operation; and this will be common to any plan, and not peculiar to this branch. The first engineer must be competent to the care and management of the engines and machinery of the pumping establishment, and be ready to tend the engines at such times as may be necessary. This will be an important officer, as the regularity and success of the operation will depend much on his attention and capacity, not only as a mechanic, but also as a business man.

A rather liberal compensation should be paid to all the men employed about the engine and pumps, in order to command steady and faithful men, and prevent frequent changes. So much will depend on the regular operation of this machinery, that it should not be hazarded for a small difference in the cost of wages.

The price of coal, in the estimate, is put down at $6 per gross ton.

Estimate of the annual expense for raising 2,500,000 *wine gallons per day.*

950 gross tons of coal at $6		5,700 00
First engineer — 365 days at $2,25	821,25	
Ass't " " " " 1,75	638,75	
2 firemen " " " 1,25	912,50 .	. 2,372 50
Oil, hemp, tallow, &c. (per Mr. Wicksteed)		726 00
Repairs of Machinery and buildings — $173,656 — at 2 per cent		3,473 12
Insurance on 3–4 of machinery and buildings at 1 per cent		1,302 42
Total		$13,574.04

The above estimate is based on working 365 days, for the reason that the water will be wanted every day in the year. Should it be deemed expedient to dispense with work on the Sabbath, the supply may be had by working extra hours, say 2 hours per day, during the week. This would not probably change the aggregate annual expense.

Estimate of the annual expense for raising 5,000,000 *wine gallons per day.*

1900 gross tons of coal at $6		$11,400 00
First Engineer — 365 days at $2,25	821,25	
Two ass't " " " each at 1,75	1277,50	
Four firemen " " each at 1,25	1825,00 .	. 3,923 75
Oil, hemp, tallow, &c. (Mr. Wicksteed)		1,452 00
Repairs of machinery and buildings — $277,972 — at 2 per cent.		5,559 44
Insurance on 3–4 of machinery and buildings at 1 per cent.		2,084 79
Total		$24,419.98

Estimate of the annual expense for raising 7,500,000 *wine gallons per day.*

2850 gross tons of coal at $6		17,100 00
First engineer — 365 days at $2,25	821,25	
Three ass't " " " each at 1,75	1916,25	
Six firemen " " each at 1,25	2737,50 . .	5,475 00
Oil, hemp, tallow, &c. (Mr. Wicksteed)		2,178 00
Repairs of buildings and machinery — $350,312 — at 2 per cent		7,006 24
Insurance on 3–4 of buildings and machinery at 1 per cent		2,627 34
Total		$34,386 58

In the preceding estimates of the annual cost of pumping, the first engineer is the only extra person employed. With an organization of efficient men, this is believed to be adequate to the current requirements, on the basis of the estimates.

If annual expenses be charged as capital, that will, at 5 per cent, produce the same, the several estimates may be represented as requiring the following expenditure for the respective quantities, delivered into a reservoir at Corey's Hill.

For procuring 2,500,000 *gallons per day.*

Estimated first cost of works	335,015	
Capital to provide for current expenses	271,480 .	$606,495

For procuring 5,000,000 *gallons per day.*

Estimated first cost of works	520,819	
Capital to provide for current expenses	488,399 . .	1,009,218

For procuring 7,500,000 *gallons per day.*

Estimated first cost of works	593,159	
Capital to provide for current expenses,	687,731 . .	1,280,890

It will have been observed that the preceding estimates provide for delivering the water into a reservoir at Corey's Hill. This mode is adopted for the convenience of showing the comparative expense of procuring water from Long Pond and Charles River. The reservoir at Corey's Hill, and the pipes from thence to the city, will be required in either case.

LONG POND.

By the Report of the Commissioners made in 1844—page 10—it appears that a gauge of the quantity of water which passed the outlet of this pond, was made by them in 1837 and 1838. By this gauge, the average daily flow from July 27th, 1837, to July 27th, 1838, was (15.36 feet per second) say 9,927,000 gallons per day; and computing the gauge from November 1837 to November 1838, the daily average flow was (21.82 feet per second) say 14,100,000 gallons per day.

During the present examination, the time has been improved to test this measurement, as far as practicable.

The survey of the country draining into the pond, shows an area of 12,077 acres, including the pond.

Several ponds are included in the area of drainage, which will lose by evaporation from their surfaces, a large proportion of the rain that falls upon them. To provide for this loss, it is believed proper to deduct from the drainage 677 acres, which leaves 11,400 acres as the area of drainage from which Lond Pond derives its supply. This is equal to 496,584,000 square feet. The quantity found by the Commissioners, as before stated, for the year commencing July 27th, 1837, was 15.36 feet per second, or for the year, 484,392,960 cubic feet, discharged at the outlet. This is equal to .975 of a foot, or 11.70 inches in depth that must have been collected from the whole area of drainage. The quantity of rain that fell at Boston during the same time, as appears by the rain gauge kept by Dr. Hale, was 26.65 inches. The ratio of drainage was therefore .439 of the total fall of rain at Boston.

Taking the Commissioners' gauge at the outlet, for the year commencing November 1837, it appears that there were discharged at the outlet, 21.82 feet per second, or for the year 688,115,520 cubic feet. This is equal to 1.385 feet, or 16.62 inches in depth that must have been collected from the country draining into the pond. The quantity of rain that fell during this time at Boston, by the rain gauge of Dr. Hale, was 38.11 inches. The ratio of drainage was therefore .436 of the fall of rain at Boston. The two gauges, considering the great difference in the quantities of rain that fell, show a remarkable coincidence in the ratio of drainage, and, at the same time, very well agree with observations made in other parts of the country to determine this ratio, as will appear by reference to the remarks on Spot Pond. In the absence of any other facts, it would be deemed that those above given were sufficient to decide the question in a very satisfactory manner. There is here, however, one hypothesis—that is, the assumption that the same quantity of rain fell on the Long Pond district that fell at Boston. Had a rain gauge been kept within the district drained, the result would have been conclusive. The different periods of time—considered in connection with the fact that one gave nearly 50 per cent. more rain than the other—and their holding almost exactly the same ratio as determined by the gauge at the outlet, are highly calculated to show that no material difference existed, between the fall of rain at Boston and that in the district of Long Pond, at the time when these guages were made.

In discussing this question, as relating to Spot Pond, it was difficult to find data to account for the large ratio ; and the most satisfactory method of doing so, was to assume that the quantity of rain which fell on that district, had been greater than at Boston.

In view of all the facts above presented, there appears no reasonable ground to doubt that .4 of the fall of rain may be realised as the ratio of the total fall which may be collected from the district that drains into Long Pond. This is 2-3 of the ratio taken for Spot Pond.

The annual quantity of rain that fell at Boston and at Waltham, for a series of years, has been stated under the head of Spot Pond. It there appears that the minimum fall of rain in a series of 27 years at Boston (the year commencing with the 1st of January) was 29.98—almost exactly 30 inches—and that 9 years fell below 36 inches. At Waltham, in a series of 20 years, the minimum fall was 32.09 inches, and 3 years fell below 36 inches. The annual amount of fall at Spot Pond was assumed at 36 inches. We are not aware of any sufficient reason to show that there should be a greater fall of rain on the Spot Pond district, than on the Long Pond district. But as the works that will be required for the purpose of introducing water from the latter, are more expensive, and the reliance that must be placed on a supply from this source, more important, it is considered prudent to take the minimum of the gauge observed at Boston—namely 30 inches, the least annual fall of rain at that place—as the basis of computation in this case.

As before observed, the area of drainage is 496,584,000 square feet ; 4-10 of 30 inches is 12 inches—or one foot in depth may be collected in Long Pond. 496,584,000 ÷ 365 is 1,360,504 cubic feet, equal to 10,176,570 gallons per day. This is a trifle in excess of the lowest gauge found by the Commissioners in 1837 and 1838, when the fall of rain was 26.65 inches at Boston. It is proper to observe that, although the guage for the year 1837 was 30 inches (29.98), and this was the minimum of 27 years at Boston, the fall for a year commencing July 27th, 1837, was only 26.65 inches. This arose from taking parts of two years, in which the average was less, in each case, than for the full year. It may, therefore, be very safely concluded that this source can be relied on to furnish ten millions of gallons per day, as the least supply.

In order to appropriate this quantity, there must be means to reserve in store the excess that will, at times, collect, and to hold it ready for use as it may be wanted.

For from 6 to 7 months of the year, the daily flow into the pond will equal the amount required to be drawn for the use of the City ; and, for the remainder of the year, the supply must, more or less, be drawn from a reservoir which has held in store the surplus of the first period. It is believed that a storage reservoir should be provided for 180 days of the dry portion of the year. No doubt it will often happen, during this time, that surplus water, over the daily quantity required for the City, will flow into the reservoir. The capacity of the reservoir should be sufficient to furnish the complement of what may be relied upon as the flow into it, during this term of 180 days.

In their report of 1844, the Commissioners state that the lowest gauge observed in 1837, gave, as an average for the last five days of September, 1.83 feet per second furnished from sources independent of the water accumulated in the pond, and the average for the three months of August, September and October, was 3.71 feet per second : and for four months, 5.62 feet per second. They further state that gauges, made under their direction in 1844, to determine the minimum flow independent of accumulated water, showed an average flow for 13 days—ending September 24th, of 1.90 cubic feet per second. But with the exception of these 13 days, the average of any equal or longer period, exceeded 5 feet per second.

GAUGING OF LONG POND.

The position of the outlet of Long Pond is such as to preclude the method of measuring in a receptacle, which was employed at Spot Pond. The water in Long Pond is never more than 5 or 6 feet higher than that in Mr. Knight's mill pond, which, at low stages of Long Pond, forms with the latter a continuous sheet of water. Hence the employment of a weir at that place was out of the question ; and the flume at the outlet was not of sufficient length to constitute a sluice suitable for such a purpose. Recourse was therefore had to a sluice, constructed expressly for that object, under the road bridge a few rods below Knight's upper factory, through which all the water drawn from the pond must necessarily pass. This sluice was 25 feet long, 18.983 feet wide, and 20 inches deep—formed of plank well jointed, and securely attached to an exterior frame work, the upper end so connected with the abutments of the bridge as to compel all the water coming from the tail race of the mill to pass through the sluice. The floor of the sluice was inclined down stream, about $\frac{56}{100}$ of an inch in the distance of 25 feet. A stream gauge adapted to the purpose, and capable of being applied to any part of the sluice, gave the depth in thousandths of a foot.

The depth of the water remaining in the pond was measured at the outlet at four different points, for mutual verification, and to provide against disturbance by waves, or other accidental causes which might interfere with one point of observation, while the others were found available for the purpose.

For about one month, the depth of stream, in the sluice below the mill, was taken, on an average, 55 times per day, of which 32 times were in the central cross section of the sluice. The velocity was also measured, on an average, 55 times per day, employing for this purpose a method similar to that used at Charles River. This series of measurements afforded the means of determining the average velocity in different parts of the breadth of the stream, and also the average depth at the respective sections. After its conclusion, the knowledge afforded, gave the means of abridging the labor, by substituting for a set of observations taken through the whole breadth of the stream, a few only, taken at a determinate line near its centre ; and this allowed the number of sets taken per day to be proportionally increased, carefully noting the time of each, and the continuance of the stream at any observed depth and velocity. It will be observed that some variations existed in the rates at which the water was used by the mill, caused by the different amounts of machinery in motion on the respective days, as demanded by the operations of the establishment. On some occasions also, as on Saturdays, only half a day's work was performed each day. The observer stationed to gauge the water, was allowed full opportunity to note the quantities of machinery in motion, at successive periods of the day, and to compare, by this means, the several rates of flow with the work actually in progress. A small quantity of water leaked through the mill gates, and was gauged on all convenient occasions. The amount of this leakage was generally very small, and, with the evaporation from Knight's pond, probably did not exceed the quantity which is conveyed to the same by the small rivulets which have their origin and course wholly exterior to the Long Pond water-shed.

The following table exhibits the amount gauged during the time for which we have made comparisons applicable to the calculations of quantity,* and especially of supply from the water-shed of the pond. The rain and evaporation gauges were kept during the greater part of this time, but, as will hereafter appear, their indications were interfered with, for a portion of the time, by causes which will be explained in the proper place. The table and the remarks following it, show, that the entire quantity gauged from the 30th of July to the 1st of November, inclusive, was 1,020,040,587 gallons, or 136,005,411 cubic feet; being, on an average of the 95 days, 10,737,269 gallons per day. At the commencement of this period, the water stood 3.346 feet deep over the floor of the flume in Knight's outlet, and at the end of it, 1.371 feet—showing a total decline of 23.7 inches. Rains of any considerable magnitude were generally observed to raise the pond, within one or two days, to a greater height than the depth of rain which had fallen.

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* The calculations which determined the quantity of water passing at the time any set of observations was made, embraced of course the number of minutes during which any observed rate of flow was maintained. The sum of the quantities obtained for all the sets taken while the mill was running, gave the aggregate draught of water for the day. This required a separate calculation for every set of observations.

Table showing the amount of Water daily drawn from Long Pond, from August 1st *to October* 31*st*, 1845, *inclusive—with the number of sets of observations taken each day—and the times during which the mills that used the water were in motion.*

	AUGUST.			SEPTEMBER,			OCTOBER.		
Day of the month.	No. of sets of observations.	Time the mills ran	Total No. of gallons discharged each day.	No. of sets of observations.	Time the mills ran	Total No. of gallons discharged each day.	No. of sets of observations.	Time the mills ran	Total No. of gallons discharged each day.
		h. m.			h. m.			h. m.	
1	5	13.30	18,395,100	8	12.30	11,987,291	10	11.00	11,814,393
2	5	12.10	13,568,270	8	12.12	14,242,929	11	11.11	10,173,457
3			Sunday,	8	12.20	13,066,512	9	10.55	10,370,187
4	5	12.35	15,537,945	7	12.30	13,416,097	9	10.53	10,222,042
5	7	13.20	16,089,836	11	16.47	13,703,622			Sunday.
6	5	12.40	12,512,571	11	12.30	12,707,843	10	10.52	11,773,619
7	4	12.45	14,838,112			Sunday,	7	6.51	6,680,058
8	5	12.45	14,341,108	11	13.28	14,752,949	10	10.36	10,882,872
9	5	11.45	13,362,919	11	12.05	14,639,028	8	10.47	11,167,070
10			Sunday,	13	13.00	15,537,755	14	10.45	11,073,891
11	6	13.30	15,848,997	10	12.00	13,111,554	8	10.27	12,488,735
12	3	6.00	7,430,274	8	12.05	10,888,254			Sunday.
13	5	12.45	14,813,036	9	11.25	13,208,975	9	10.45	12,762,057
14	7	13.25	15,304,125			Sunday,	7	10.44	11,414,582
15	7	12.40	14,891,084	10	11.55	11,969,785	9	10.39	12,479,289
16	7	12.22	12,800,148	9	11.50	14,806,701	10	11.14	12,434,276
17			Sunday,	8	11.34	11,255,862	11	11.04	12,423,050
18	7	12.38	15,355,304	10	11.41	11,895,761	10	10.48	10,612,546
19	6	12.45	15,321,716	11	11.38	10,786,355			Sunday.
20	7	12.20	14,005,572	11	11.16	9,723,070	11	10.40	10,451,591
21	6	12.40	13,262,025			Sunday,	9	10.40	11,115,918
22	6	12.35	14,987,296	10	11.37	11,775,087	11	11.02	10,347,727
23	6	11.45	13,105,936	12	11.19	12,681,922	10	10.56	10,871,026
24			Sunday,	9	11.14	11,704,548	11	10 54	9,373,485
25	7	12.03	14,122,804	9	11.24	11,342,658	12	10.31	10,155,253
26	6	12.45	15,609,747	10	11.21	11,866,196			Sunday.
27	9	12.35	12,809,547	10	11.00	10,669,611	11	10.35	10,034,812
28	6	12.45	15,542,877			Sunday,	8	10.38	8,926,567
29	7	12.40	15,944,013	8	11.05	12,360,029	10	10.34	8,901,081
30	6	11.38	9,537,078	10	11 10	10,553,213	10	10.21	7,841,547
31			Suuday,				9	10.20	8,205,331

Besides the observations detailed in the preceding table, there were 5 sets taken on the 30th, and 4 on the 31st of July, and 10 on the 1st of November. The mills on these days, ran, respectively, 13 hours 0 minutes, 13 h. 0 m. and 10 h. 28 m.—and the flow of water was as follows: July 30th, 17,602,145; 31st—16,173,200; November 1st—7,277,733 gallons.

In order that the gaugings of rain and evaporation may be compared for the same 5 periods that have already been exhibited in relation to Spot Pond, we will state that, before the 7th of August, there had been drawn from Long Pond 109,879,067 gallons = 14,650,542 cubic feet—reducing the level of the pond .341 foot.

Prior to the last mentioned date, the flow of water from the outlet had been wholly from Long Pond; but on the morning of the 6th of August, at 10 o'clock, A. M., the outlet of Dug Pond—which contains about 40 acres—was opened, and its waters began to flow into Long Pond, within the hydrographic basin of which it is contained. While Dug Pond was emptying its waters, the decline of Long Pond as measured at the outlet, was, of course, comparatively slow. When first examined after the opening of its outlet, the water in Dug Pond appeared to have declined, since the opening, about one foot in 45 1-12 hours. When again examined, after the lapse of exactly 96 hours, the decline was 14⅝ inches—1.15 inches of rain having fallen in the mean time. In the next 30 hours and 10 minutes, it declined 5½ inches. On the 29th of the same month, at 9¾ A. M., the water in Dug Pond was at the level of the top of its outlet, which is a trunk of planks, 18 inches wide and 12 inches deep, and consequently was then within 12 inches of its lowest level. It had then fallen about 5 feet from the time of opening—say in 23 days—during all which time, and for a few days subsequently, the flow of a part of the store from Dug Pond interfered with the exact calculation of drainage from the water-shed.

The following table shows several periods of observation, embracing all the series of gaugings at the outlet. From this it appears that, of the water previously stored in Long Pond itself, there were exhausted, during the 95 days of observation, 45,650,982 cubic feet; and that, consequently, the quantity derived from the Dug Pond store and the water-shed together, was 90,355,329 cubic feet. Dug Pond, having an area of 40 acres and being drawn down 6 feet, would of course supply 43,560 × 40 × 6 = 10,454,400 cubic feet. The mode of ascertaining the ratio of supply from the water-shed, is entirely similar to that which has been used in all the analogous calculations on the subject of the Spot Pond district.* Besides the flowing of the waters of Dug Pond, another cause for a time interfered with the regularity of decline of Long Pond at the outlet. While the Saxonville Railroad was in progress of construction, the narrow strait connecting the upper, or southern, with the middle division of the pond—which that work crosses—was temporarily impeded while the foundations of a culvert were laid. This narrowed the channel so much, that the waters of the upper division were partially obstructed, or dammed and kept back from the outlet. On the 29th of August, the difference of level between the upper and the middle divisions of the pond, was not less than 3 inches. Before the commencement of the 5th period (September 22d) this obstruction had been removed and the level of the pond probably restored.

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* For calculating the ratio of drainage, the following formula may be employed.

Let a = observed depression of reservoir or pond in any given period.

$b =$ depth of rain which has been gauged in the mean time—
Then $a + b =$ the total *apparent* exhaustion of the pond in depth of prism.
Also let $c =$ the depth of evaporation;
$d =$ the height to which the bulk of water known to have been drawn would fill the pond if restored, and $y =$ the ratio of drainage required.
Then $c + d =$ the total *real* exhaustion of the pond in depth of prism—the real exhaustion being greater than the apparent. The difference $(c + d) - (a + b) =$ the *depth on the pond* which was afforded by the water-shed. And as the area of water-shed compared with that of the pond is supposed to be known, this relation may be expressed by r. Hence $\frac{c + d - a - b}{r} =$ the actual depth on the water-shed of that water which has been thrown into the pond—and as the total depth of rain which fell both on land and water is b, therefore ratio of drainage is $y = \frac{c + d - a - b}{b \times r}$.

Table exhibiting the depth of rain and evaporation, draught and depression of surface, at Long Pond, from July 30th to November 1st, 1845.

Period of draught.	Number of days in the period.	Dates embraced in the period.	Depression of surface.	Draught in gallons	Depth of evaporation in feet.	Rain in feet.	Draught in cubic feet.	Depth of water at outlet at the beginning of each period.	Area of the pond in acres.	Area of the pond in square feet.	Depth removed, in feet.	Area of water-shed, in acres.	Ratio of water-shed, to area of pond.	Per centage of rain which came into pond from water-shed.	Cubic feet of water drawn from the store in the pond.	Cubic feet drawn which had not been stored in Long Pond.
1	8	From July 30th to August 6th, inclusive.	.341	109,879,067	.082	.052	14,650,542	3.346	570	24,829,210	.5900	11,378	19.962	26.87	8,466,700	6,183,842
2	10	August 7th to 16th, inclusive.	.181	123,629,803	.092	.096	16,483,974	3.008	544	23,696,610	.6940	11,404	20.963	25.27	4,289,080	*12,194,894
3	13	August 17th to 29th, inclusive.	.248	160,066,837	.193	.221	21,342,245	2.823	529	23,043,240	.9263	11,419	21.586	22.48	5,714,662	15,627,583
4	23	August 30th to Sept. 21st, inclusive.	.699	241,237,421	.318	.189	32,164,989	2.576	512	23,017,500	1.4006	11,436	22.336	19.67	16,088,900	16,076,089
5	10	Sept. 22nd to Oct. 1st, inclusive.	.268	104,767,657	.091	.106	13,969,021	1.864	506	22,041,400	.6323	11,442	22.613	14.57	5,907,100	8,061,921
6	31	Oct. 2nd to Nov. 1st, inclusive.	.238	280,459,802	.289	.255	37,394,640	1.595†	500	21,780,000	1.7169	11,448	22.896	25.91	5,183,640	32,211,000
		Total,	1.975	1,020,040,587	1.065	.872	136,005,411				5.9618				45,660,082	90,355,329

*The outlet of Dug Pond was opened at 10, A. M. August 6th, and about 10,454,400 cubic feet of its accumulated store was drawn off.

† The depth of water in Knight's outlet, at the end of the last period, November 1st, was 1.371 feet.

Deducting from the total amount which had not been previously accumulated and stored in Long Pond, viz. 90,355,329 cubic feet, the estimated quantity drawn from the store in Dug Pond, viz.—10,454,400 cubic feet—we have left 79,900,929 cubic feet = 841,063 cubic feet per day, or 9.735 cubic feet per second. This quantity, on a water-shed of 11,427 acres, gives a depth of 79,900,929 ÷ 498,196,000 = .16038 of a foot, for the depth of water derived from the water-shed; and as, during our whole period of observation, there fell, .872 foot of rain, the per centage derived from the water-shed was .16038 ÷ .872 = 18.39.

The supply of 9.735 cubic feet per second, is 6,307,900 gallons per 24 hours—which is independent of the accumulation of previous parts of the year.

In our remarks, introductory to this report, we have stated that the guagings of evaporation indicated that more water was removed by this means, in the district of Spot Pond than in that of Long Pond. The following abstract of the observations at the two stations, from the 6th to the 31st of August, and for the entire months of September and October, will illustrate that position:—

SPOT POND.	Evaporation.	LONG POND.	Evaporation.
August 6th to August 31st	.493 foot.	August 6th to August 31st	.319 foot.
September	.496 "	September	.380 "
October	.322 "	October	.286 "
Total,	1.311 feet.	Total,	.985 foot.

The evaporating apparatus was, in each case, a cylindrical vessel about 5.35 inches in diameter and 12 inches deep—with three supports, or ears, projecting from near the upper edge. To sustain it in the water, a platform or raft of 2 inch plank, was constructed, 10 feet square, with weather boards 12 inches high round the sides, to keep out the waves. By means of pine timbers beneath, this was made to possess sufficient buoyancy to sustain the plank mostly above the surface of the water. Through the centre of the raft a hole was cut to receive the cylinder, which thus descended into the water, till the ears came in contact with the plank. Its upper edge was thus kept about one inch above the surface of the platform.

Filling this to the ordinary height at which the water was set, at the commencement of a series of observations, brought the level, within and without the vessel, to nearly the same point.

The depth was measured by placing a brass bar, with a screw guaging rod traversing its centre, across the middle of the vessel, and turning the screw till its conical point came in contact with the water. The distance it projected below the bar was then ascertained by applying to it a scale adapted for that purpose, and divided into thousandths of a foot.

The apparatus at Long Pond was moored, during the month of August, very near the outlet, and where it was but little influenced by the south-west wind; subsequently it was taken out some 500 or 600 feet into the pond, but even here the surface was seldom much agitated by waves, except during the prevalence of easterly Winds.

The steep and high banks which surround all this part of the pond, did not afford, within any reasonable distance, a more eligible position for these observations; and the object was not thought to warrant the establishment of another post of observation at the same source.

At Spot Pond, the position of the raft and evaporating apparatus, near the eastern shore of the pond, (at which station all the experiments on temperature were made) was such as to expose it to the full effect of the southwest winds; and the tendency of such exposure was to reduce and keep down the temperature of the water surface. At Long Pond, the high banks probably, in some small degree, limited the evaporative action of the prevailing winds, and allowed the water to maintain, in that part of this pond, a somewhat higher temperature than at the other source.

To obtain some light on the subject of the preceding remarks, a thermometer was employed at each of the sources, to ascertain the temperature of the water, the air, and the dew point. These have been observed from three to five times each day, and a comparison for morning, mid-day and evening observations, for a period of 40 days in August, September and October, has been instituted, affording the following results.

	Spot Pond.	Long Pond.	Charles riv.
Average temperature of air,	62°81	61°11	60°94
" " dew point,	54°42	53°72	53°91
" " water,	67°35	67°14	63°02
Diff. between air and dew point,	8°39	7°39	7°03
" " water and dew point,	12°93	13°42	14°11
" " water " air,	4°54	6°03	7°08

On the same 40 days on which these temperatures were taken, the aggregate evaporation at Spot Pond was .597 foot, and at Long Pond it was .464 foot. The difference between the dew points and the temperature of air, is sufficient to account, at least in part, for the excess of evaporation at Spot Pond, above that at Long Pond; and something must also probably be attributed to the more favorable position of the evaporating apparatus at the one source than at the other. If the latter cause were adequate to produce the whole difference of evaporation at the two sources, that at Long Pond would seem to have been under-estimated to this amount; but the differences of temperature just shown do not require this supposition.

From these facts, it appears that the surface of the water, at these several sources, maintains generally, in hot summer weather, a higher temperature than the superincumbent air ; amounting on an average of the three sources, to about 5°88—Charles River having the greatest excess.

From all the consideration we have been enabled to give to the observations of others, and from our own experiments during the past season, we deem it safe to adopt 5 cubic feet per second as the supply capable of being afforded by the Long Pond district, during 180 days of the driest season. The months of the greatest evaporation are, usually, July, August and September ; and, as a general observation, four months are regarded as the season of a low state of water in streams. Strict low water rarely exceeds three months.

The reservoir will afford the means of considerably improving the current supply for the 180 days, over the natural flow. As soon as the water is drawn below the surface of the reservoir, it will furnish room to accumulate the flow from rains that occur after such fall. By this means, the rains during the summer months, which cause a temporary rise in streams, instead of, as is often the case, running a large portion to waste, would be collected in the reservoir, and serve materially to increase the current supply, above that produced by the ordinary action of streams. It therefore appears quite safe to assume that 5 cubic feet, per second, may be obtained from the current supply during the 180 days. To furnish 10,000,000 gallons per day, will require, in addition to this 5 feet, that reservoir provision be made for 10.47 cubic feet per minute, for 180 days. A reservoir of the total capacity of 162,881,640 cubic feet, will be required to store this amount. An area of 575 acres, 6½ feet deep, will be sufficient for this purpose. Long Pond and Dug Pond afford the means of this amount of reservoir, at a moderate expense.

The area of Long Pond, at low water, or at the level of the floor of the flume at the outlet, is 489 acres ; at 1.5 feet above the floor, the area is 504 acres ; at 3 feet above, the area is 559 acres ; at 6.5 feet above, it is 659 acres ; and at 8 feet above, it is 684 acres.

From indications on the shore, it appears that the usual high water mark has been about 3 feet above the floor, or bottom of the flume. Last year, the dam was raised to nearly 6.5 feet above the same level. It is now proposed to raise the dam to 8 feet above the floor of the flume.

No exact survey of the area has been made for this height, except for the low ground at the south end ; but from observations, made at the time the survey was taken for 6.5 feet, together with the survey of the south end, the area of the pond will be increased to 684 acres by raising it to the proposed level. This will give the greatest depth of the pond when full, as found by the soundings, 71 feet.

The pond is well exposed to the action of the winds, which tend to maintain the purity of the water. It would more appropriately be termed a lake.

If the pond be raised to 8 feet, there will be 125 acres that will not be covered wtth more than 5 feet depth of water ; or 18.5 per cent. of the pond will be covered with less than 5 feet depth of water.

If the pond be raised to 6.5 feet, there will be 100 acres—or a fraction under 18 per cent. that will be covered with a depth of water not exceeding 5 feet.

It therefore appears that the ratio of shoal water will be almost exactly the same, in the two heights of 6.5 and 8 feet. At 3 feet, the peat meadow at the south end is, to a large extent, covered with water.

The expansion of pond surface which is produced by raising the water, takes place, mostly, at the peat meadow south of the railroad ; at a meadow near the south end ; and at the low grounds at the mouth of Snake brook. Small bays occur at other places. With the exception of the three places above mentioned, the shore of the pond is generally a bold sand and gravel bank, that does not permit the growth of aquatic plants.

In order to prepare this pond for a suitable reservoir to supply the city with water, it will be necessary to remove, or raise, the surface of the flowed ground, so that the bottom or bed of the reservoir will be gravel, or covered with such a depth of water as will prevent the growth of aquatic vegetation.

The surface covered by a shallow depth of water is, more or less, a vegetable earth, varying in depth, generally, from 1.5 to 3 feet—the greater portion being about 2.5 feet. To a limited extent, the vegetable soil is 6 feet or more in depth, which occurs mostly in the peat meadow south of the railroad. In a few places this soil is of a very soft and spongy nature ; but, for the most part, it is sufficiently firm to stand on a slope of two to one. And in the most depressed parts, the earth may be excavated and deposited on the parts more elevated. This process should be arranged so that the part excavated will raise the balance above the top water line of the reservoir. It will not be necessary to remove and raise above water line, all the vegetable earth ; a portion will be covered with such a depth of water as will render it harmless, or essentially so, to the water of the reservoir.

If the pond be raised to 8 feet, it is proposed to remove, and raise as before stated, all vegetable earth that occurs above a level 7.25 feet below the top water line. As the water will usually stand at a depth of 7 feet until July, it is believed that no vegetation of plants will be produced, to any important extent, on that portion whence the vegetable earth will not be wholly removed. The total amount of earth required to be removed, is 375,000 cubic yards. The work admits of such an arrangement that the main mass of this excavation can be deposited within wheeling distance; and as the principal portion is cut through the vegetable earth to a solid gravel and sand, carting may be adopted for the removal where the distance is too great for economical wheeling, except to a very limited extent. After the pond is drawn down, as it must be, for the excavation of the work, the excavation will be principally of an easy character to remove. It is believed that the excavation may be done for from 8 to 9 cents per cubic yard, or say a total cost, in round numbers, of $33,000.

If it should be preferred to raise the pond to 6.5 feet (about the same level to which it was raised last winter and spring) there will be required, on a plan of improvement similar to that above described for 8 feet, the excavation of 350,000 cubic yards, which, at the rate above mentioned, will be, in round numbers, $31,000. It appears, therefore, that the expense of the reservoir will be nearly the same for 6.5 feet that it will be for 8 feet. This arises from the formation of the shores, which are more abrupt after passing the 6.5 feet flow line, the water having, at this line, covered nearly all the low ground contiguous to the shores, or margin of the pond.

To provide for 7,500,000 gallons per day, the reservoir at 6.5 feet height will be amply sufficient. The 8 feet level will, however, give a better reservoir for this quantity, and as it provides, at a small extra expense, for a capacity of 10,000,000 gallons per day, it has been deemed proper to present it for consideration.

For the greater part, the margin of the pond is covered with wood which must be cleared off. It so happens that the most of the margin, that is covered with wood, is bold, and the water will be but little extended by raising. The whole amount of clearing is estimated at $1,500.

There are several roads which cross the pond, and require to be raised. They have answered for 6.5 feet as they are; but it is best to raise them a little for this level, and more for 8 feet. It is estimated that an expense of $500 for the 6.5 feet, and of $1,200 for the 8 feet level, will be sufficient for this object.

A new dam will be required at the outlet, with a waste, or overfall, to discharge the surplus water. The dam, for a rise of 6.5 feet, is estimated to cost $2,500—and for the rise of 8 feet, $2,800.

ESTIMATE OF WORK ON LONG POND RESERVOIR.

To raise 6.5 *feet.*

Dam at outlet, - - - - - - -	2,500
Excavation, as above given, - - - -	31,000
Clearing margin, - - - - - -	1,000
Raising roads, - - - - - - -	500
Total, - - - - - -	$35,000

To raise 8 feet.

Dam at outlet,	2,800
Excavation, as before given,	33,000
Clearing margin,	1,500
Raising roads,	1,200
Total,	$38,500

The water was raised last winter, over nearly the whole of the vegetable ground that is proposed, in the preceding estimate, to be excavated ; and consequently the water from Long Pond which has recently been analyzed, has been subject to all the influence of this vegetable bottom ; and it may be doubted whether this influence is sufficiently important to demand so much expense in its removal. This matter was discussed in relation to Spot Pond, but the work there appeared so great, for the quantity of water which could be obtained, that it was not thought the expense would be warranted. If, however, the City decide to adopt Long Pond as the source from which to obtain a supply of water, it is believed that the superior quality which would be given to it, will fully warrant the expense of the proposed improvement. It will make it a reservoir of a very unexceptionable character, well adapted to the object.

The question whether the pond be raised to 6.5, or to 8 feet, will not affect the expense of the aqueduct.

It is proposed to convey the water from Long Pond to a reservoir on Corey's Hill, by an aqueduct of masonry, with the exception of iron pipes for crossing the valley of Charles River, and also for a valley near Brighton Village.

The plan of aqueduct proposed by the Commissioners, in 1844, was in section, an egg-shaped oval—the largest end down ; the greatest width 5 feet, and the extreme height 6 feet 4 inches—composed of hydraulic masonry. This aqueduct, graded on a declivity of 3 inches to the mile, is considered to be a conduit well adapted to the object. This conduit, with the fall given to it, when filled to the depth of 3 feet 10 inches—by Robison's formula, corrected by observed facts of the actual flow in the Croton aqueduct—will discharge 8,305,000 wine gallons in 24 hours. To increase the depth 6 inches, or to 4 feet 4 inches, the flow would be say 9,430,000 wine gallons. The Commissioners estimated the capacity at say 7,000,000 gallons, which appears to have been obtained from Prony's formula. The observations repeatedly made on the flow of water in the Croton aqueduct, shew conclusively that 8,000,000 gallons may be relied on for the first case, and 9,000,000 for the second. To reduce the size of the conduit to a capacity of 7,000,000 gallons, would effect only a very small reduction in the aggregate cost. The design of the Commissioners of 1844 was probably intended to give such height and form as would not only be sufficient for the flow of water required, but would also provide for the convenient examination and repair of the work, when it might be required. The latter consideration is an important one for a conduit of any considerable length, and should not be lost sight of in a work of the magnitude and importance of this, especially as no material saving can be effected in the expense of construction. And, further, as it is believed that the time will arrive when the whole, or nearly the whole, capacity will be wanted, it is deemed most expedient to adopt, in general, the plan proposed in the report of the Commissioners above mentioned.

The Commissioners, in their report of 1844, propose to construct the aqueduct of brick masonry, uniformly 8 inches thick, laid in hydraulic cement. This form of conduit is materially different from that of the Croton aqueduct. The circumstances of the two cases are also very different. The latter has an interior sectional area of say 54 feet—the former one of say 25 feet. The Croton passes, for a large portion of its length, over low grounds, requiring its foundation to be raised from 10 to 70 feet above the natural surface. The one under consideration is to be constructed, for the most part, in deep excavations—there being comparatively, very little ground on its line that falls below its foundation ; and this, when below grade, will generally range from zero to five feet. The plan is of the sewer form, and when laid in natural, or well settled earth, is perfectly safe ; and it is the most economical, for such a size, that can be adopted. There is no novelty in it. It has been long and successfully tried. If the aqueduct were exposed to torrents of water, or sliding hills that might carry away the earth covering, there would be some danger from this form ; but the line presents no ground for apprehension from these causes, and the plan is adopted, as well calculated to answer the object for which it is wanted.

While the plan of the Commissioners is adopted in its main features, some modification is proposed for the present estimate, namely;—a plastering of cement to be put on the inside, from the bottom to the top water line; and on the outside from the top down to the chord line of the lower, or inverted arch. The first, to more perfectly prevent water from escaping from the conduit, and the latter, more effectually to secure against the percolation of surface water into the conduit. Doubtless the conduit would do very well without the plastering, but it will be more perfect with it. It is also proposed to add to the conduit masonry, in all places where the natural surface of the ground falls below the chord line of the inverted arch, and where the earth excavated is of a light and insufficient character, a form of concrete and rubble masonry—designed mainly to give support during the construction of the work, and until the artificial earth filling, or embanking, has time to become well settled around it. If the work be carefully constructed on this plan, no apprehension need be entertained of its failure, or that it will require repairs to any material extent.

The sectional area of the brick masonry without plastering, will be 13.46 feet; with plastering it will be equal to 14.4 feet, or say .55 of a cubic yard per lineal foot of conduit.

Estimated cost of one cubic yard of hydraulic brick masonry.

550 brick at $9,00 per M.	4 95
Hydraulic lime and sand,	2 50
Laying up,	1 25
Superintendence,	0 50
	$9 20
Say $9.50, and, for one foot of aqueduct, say,	$5 25

Supporting masonry of rubble and concrete—22 feet sectional area, will equal nearly, and for safety, say one cubic yard per lineal foot.

Estimated cost of one cubic yard of rubble and concrete.

One cubic yard stone, partly broken, remainder quarry,	1 50
Hydraulic lime and sand,	2 50
Laying the work,	50
Superintendence,	30
	$4 80

Say $5.00.

As above observed, one cubic yard to one foot, lineal measure, is assumed, for safety, in meeting extra support that may be required in some places—which is regarded as a liberal provision; making the cost per foot lineal, nearly the same ($5) as the brick masonry.

GENERAL DESCRIPTION OF THE LINE OF AQUEDUCT.

It is proposed to commence the Aqueduct near the head of the northern section of the pond. The level assumed for the bottom of the aqueduct is 3 feet 4 inches below the floor of Mr. Knight's flume at the outlet. When the pond is raised to the proposed top water line (8 feet) it will stand 11 feet 4 inches—and if raised to 6.5 feet, it will stand 9 feet 10 inches, above the bottom of the aqueduct. The bottom is here understood to be the bottom of the water way in the aqueduct.

In order to procure the water from a suitable depth, the aqueduct must be carried out some distance into the pond, where a bulk head must be erected, arranged with suitable gates and screen; over this, a house will be required, to protect the work from all improper approach. It may be remarked, in this connection, that in all the places where gates or entrances to the aqueduct or pipes are to be erected, provision is contemplated to enclose them with a brick or stone building, to secure the works against intrusion.

The line passes from the pond along the valley of a small brook, about four fifths of a mile—the cutting rising in depth from 7 to about 20 feet. The line then diverges from the brook, and crosses the dividing ridge between the waters that fall, respectively, into Long Pond and Charles River. The deepest cutting on this ridge is 36 feet. The ridge is quite narrow at the summit, but the rise to it and the descent from it are very gradual.

Passing from the pond some small irregularities, where the cutting is generally under 10 feet, to a point where the cutting is 12 feet, and thence extending across the ridge to the same cutting on the opposite side—the distance is 6,500 feet, or about 1¼ miles. The line here is in swampy ground, and passes along its margin, with a cutting decreasing in depth to about 8 feet, varying as the line cuts some spurs from the hard land, to Jennings's mill dam. This dam is the first point at which the ground falls low enough to drain the bottom of the aqueduct, and is (16,100 feet) about 3 miles from the pond. There is no way in which the water can be sufficiently cleared from this section of the line to allow the work to be put down, except by pumping. It is probable that pumps must be erected at four places on this section, and worked by horse power—or, perhaps, in one place, by a small steam engine, to clear off the water sufficiently to permit the work to be done in a reasonably short space of time.

Along the swampy ground there are several points in the line where the bottom is very soft, and will require a pile foundation.

There is no appearance of rock on the deep cutting described above. The wells in the immediate vicinity of the line are about 20 feet deep, and do not show rock. In the higher grounds, not far from the line, rock appears at the surface ; and it may be found to cross it above the grade level. The question whether rock cutting will, or will not, be found in this ridge, is uncertain. It is pretty clear that it will not be found to any great extent. Under these circumstances, it is regarded as proper to assume that rock will be met with to some extent, and it will, therefore, be provided for in the estimate.

After leaving Jennings's mill, the line passes over ground, that falls from grade to 5.3 feet below, for a distance of nearly 2000 feet. The ground is mostly a firm sand and gravel; but a small portion is soft, and will require piling for a foundation.

The line then passes a broken, uneven country, for the most of the distance to where it crosses the Boston and Worcester Railroad, which is 24,000 feet, or nearly 4¾ miles, from Long

Pond. This section of line is 6,900 feet in length; and, at several places, for distances of about 200 feet each, falls from grade to 6.8 feet below. It crosses several ridges, the highest of which is 37½ feet. The low ground will, to some extent, require piling for foundation. The ridges are short, and apparently composed of sand and gravel; and it is believed that no rock will be found in the cuttings.

After crossing the railroad as above stated, the line follows along in the public road, and between it and the railroad, for a distance of 2,600 feet. Rock appears at several points on the surface, along this section. The cutting is otherwise favorable. The line then diverges to the right, the level descending to grade, and then gradually rising to 20 feet above and descending to one foot below, in a distance of about one mile. The line then passes, for nearly a mile, over a country generally favorable for the work. It then encounters heavy cutting, which, at the point opposite the Needham House, reaches to 28 feet. It then descends to a small marsh about 15 feet above grade, and thence rises over a gravelly ridge on which the highest cutting is 39½ feet. The indications of the adjacent country render it probable that some rock will be found in this cutting, though it does not appear on the line.

After crossing the public road, the line occupies side lying ground, occasionally cutting across spurs that project into the course of the line, to Charles River. The soil is generally gravel and sand, with some rock boulders. Very little of this section will require foundation wall. Near Charles River, a ravine occurs, which is 30 feet below grade, and the main body of it is about 200 feet wide. The interval land in Charles River Valley is about 60 feet, and the surface of the river 64 feet, below grade level. This valley is 1100 feet wide.

Charles River is 44,000 feet—or 8⅓ miles from Long Pond. A bridge will be required, to carry the pipes over this river.

From Charles River, the line, after leaving the valley, passes over a broken country, sometimes gently side lying; but the principal part is thorough cutting, mostly through gravel and sand, to the westerly side of Brighton Valley. Very little of this section falls below the grade level. The first prominent ridge has 24 feet cutting, about 500 feet long; the line is then easy for about one mile. The second ridge then occurs, with a cutting which, at the greatest depth, is 34 feet; the length is about 1300 feet. The line is then over irregular, but moderate, cutting, for ¾ of a mile. A narrow ridge is then crossed, the deepest cutting on which is 25½ feet, for about 100 feet. There is some reason to apprehend rock, to a small extent, in this ridge. The line is then favorable, but irregular, for a distance of ¼ of a mile. It then passes over low ground, which, for 500 feet, falls below grade—the greatest depression being 2 feet below. The ground is then favorable ; the cutting increasing in depth, which gradually rises to 16 feet, near Woodward's Academy. A thorough cut is then encountered, 1400 feet in length, that is 25 feet at its deepest cutting. There is indication of rock, to some extent, in this ridge. The line then passes along gently side lying ground, crossing a small valley which falls 2 feet below the grade level. The side lying ground continues, with one exception, to the westerly side of Brighton Valley, admitting of the most favorable cutting.

The line reaches Brighton valley at a distance, from the pond, of 75,700 feet, or about 14⅓ miles. The valley is 1,900 feet wide, and the greatest depression is 82 feet below the grade level. A small stream in this valley will require a culvert, and the soft ground near will require some piling to support the pipes.

After leaving Brighton valley, a fair line of cutting is obtained —with some indication of rock, but principally a rather heavy loam and gravel. The line then crosses a small valley, 300 feet of which will be below grade, the greatest depression being 4 feet below. The line then strikes the west end of Pomeroy's Hill, passing through side lying ground that admits of favorable cutting, to the north west end of Corey's Hill.

At this place it is proposed to make the head of the reservoir —being distant from Long Pond 83,450 feet, or 15 4-5 miles.

With the exception of the two valleys, Charles River and Brighton, there are 6,000 feet of line that fall below the grade level. One of these depressions, near Charles River, falls, as before observed, at the greatest extent, 30 feet below ; and is 200 feet wide. The remainder are from zero to 7 feet below. Of cutting which is of light depth and of a character of soil not to be depended on to support the masonry, there are 7,300 feet in length ; making, with that under grade, a total of 13,300 feet in length, that will require additional masonry to support the brick conduit.

There will be required, on the line between Long Pond and Corey's Hill Reservoir, 12 culverts, varying in width from 1.5 to 8 feet.

A bridge will be required to carry the line of pipe over Charles River.

Waste weirs will be required at three places. The first in connection with the culvert near Jennings's mill. This is the first place that water can be drawn off from the head of the aqueduct. It is necessary to have a waste weir near where pipes are substituted for the aqueduct, to provide for the discharge of any surplus of water that may not be carried off by the pipes, from any interruption, or want of perfect adjustment in the flow between the aqueduct and the pipes. For this object, waste weirs may be most conveniently located about one mile above Charles River, and the same distance above Brighton Valley.

Where the level falls below the grade line of the aqueduct, it is proposed to construct a compact, dry wall of stone—the width of the wall to be 10 feet on the top, and increased at the bottom as circumstances may require.

Ventilators are proposed, to give a good circulation of air to the water in the aqueduct, and for the convenience of persons who may be required to go in, to examine the work or to make repairs. The waste weirs and gate houses, at the influent and effluent pipe chambers, will also serve as ventilators. A door should be put in each of the ventilators, to permit entrance into the conduit. One ventilator is proposed between the head of the aqueduct and the waste weir at Jennings's Mill; two between this weir and the one above Charles River; and four between Charles River and the waste weir above Brighton Valley. Total, 7 ventilators.

Remarks on the appurtenant Works above mentioned.

CULVERTS.

The inconvenience that must necessarily attend the making repairs on culverts, and their exposure to injury from floods, require that they should be constructed in the most substantial and perfect manner. All their exposed facing should be made of dimension stone of the most durable quality, built in the style of what is termed well hammer dressed, and laid in hydraulic cement. The small size to be square, or box culverts—the bottom formed of heavy flags laid on concrete, and the top covered with similar stone. The larger class to be arched—the bottom arch inverted, laid on concrete, from which side walls are to be raised to receive the upper arch. The backing may be filled up with rubble masonry, and the wings composed of well laid rubble.

WASTE WEIRS.

The main structure may be composed of well laid rubble masonry, with cut stone coping, jambs, sill and lintel. The walls carried up so as to form a small enclosure over the aqueduct, connected at the top by a brick arch. The overfall or weir to be 5 feet long, through the breast of which a gate should be put in, to draw the water off when required. The gate and gate frame should be of the composition called gun-metal. Iron, in this situation, corrodes, rendering it difficult to work the gates. The frame should be set in cut stone, and the gates worked by an iron screw in a composition nut. A waste weir may be constructed for $1,500.

VENTILATORS.

Considerable latitude may be allowed in regard to these structures. The cheapest construction will be of brick. Of this material, they may be constructed for $250 each. If made of stone, they may cost from $350 to $500, according to the style adopted. This is mainly a matter of taste, and such plan may be chosen as is thought expedient. As a medium, the estimate will be for $400—and if the most expensive plan be adopted, it will not be important in the general result.

FOUNDATION WALLS.

A dry wall of stone, if laid in a compact and substantial manner, will be an adequate foundation for the conduit. All vegetable or loose surface should be removed, and the wall laid on solid earth, with large stone, and the interstices filled in with stone broken on the wall, to about the size used for MacAdamising roads. As will be seen by the sectional drawing of the aqueduct hereto annexed, (on following page) the top of the wall will be covered with a course of concrete masonry.

EMBANKMENT.

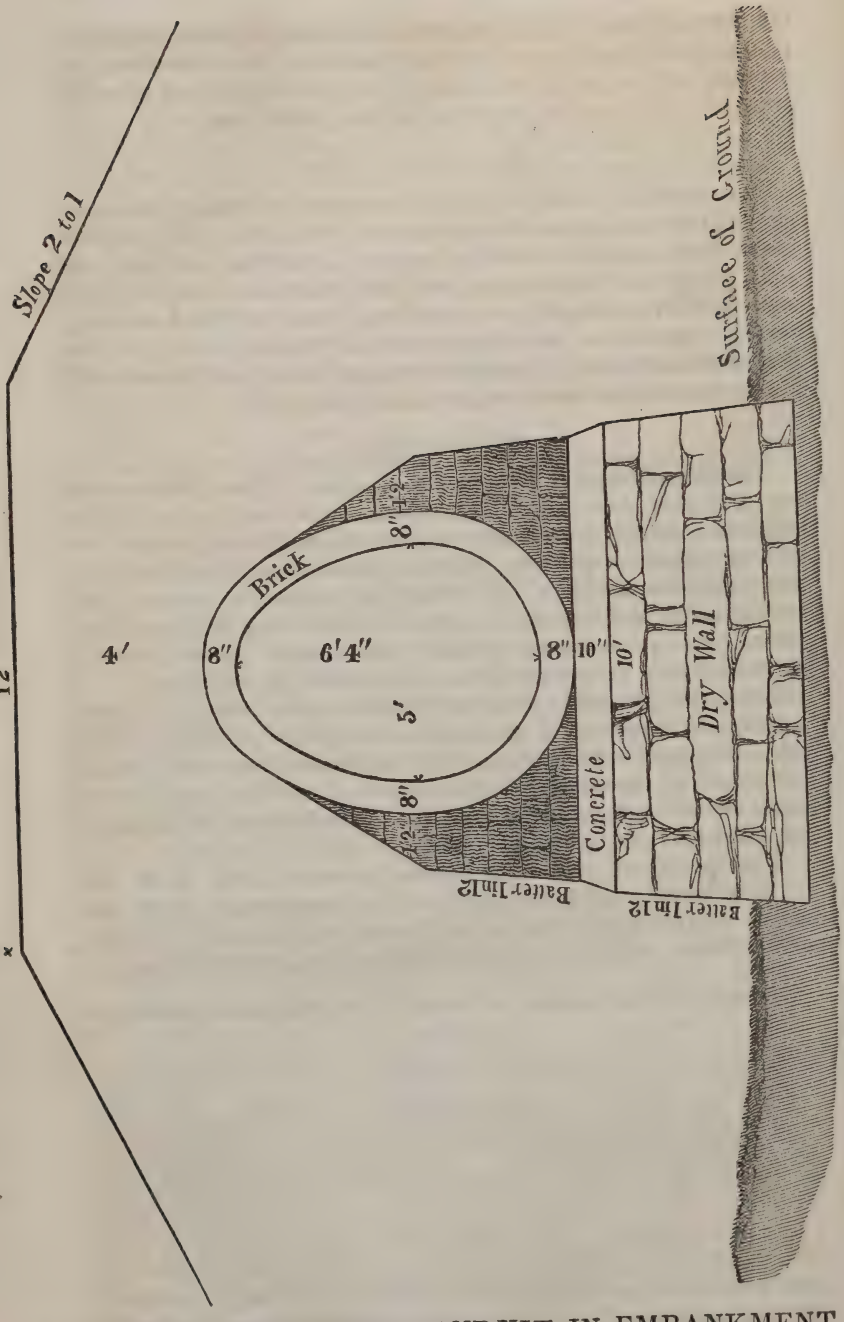
The embankment is proposed to be made 12 feet wide on the top, with side slopes of 2 feet horizontal to 1 foot vertical. This width is considered necessary to give the proper support to the masonry, and it is believed to be no greater than is required by a due regard to stability. No walling is proposed to support the embankment, and therefore a slope of two to one has been proposed. In some cases, probably, less would answer; but in general, this is as steep a slope as can safely be relied on.

From the preceding remarks, it will be seen that the heavy item in the expense of grading, is excavation of earth. The amount of rock cutting can only be estimated from the general indications of the country in the vicinity of the line, only a very small amount appearing on the line. It is believed to be amply provided for in the estimate.

That portion of the line embraced between Long Pond and Jennings's mill, will be attended with a considerable extra expense, on account of water in the bottom of the work. No special difficulty occurs in any other part of the proposed work.

IRON PIPES FOR CROSSING CHARLES RIVER AND BRIGHTON VALLEYS.

An influent and an effluent chamber must be constructed, for the pipes to connect with the aqueduct of masonry. The influent chamber should be provided with a set of gates to admit, or not, the water into the pipes. The walls of the chamber should be carried up, to form a house, over which a roof should be constructed. The door should be formed so as to make this house serve as a ventilator. This last remark applies equally to waste weirs and other enclosures, where ventilation is required. The gate chambers are estimated at $5000 for each valley—that is, for one influent and one effluent chamber and all their appurtenances.



SECTION OF PROPOSED CONDUIT IN EMBANKMENT.

In crossing the two valleys, an extra declivity of one foot is given, in order to reduce the size of the iron pipes. The length of pipe required, is three thousand feet for the two valleys. This is equivalent to a head on the pipe of two feet to the mile. The Commissioners, in their report of 1844, propose two pipes, each 30 inches in diameter, and allow an extra head of 1.25 feet. A pipe 30 inches in diameter, with a fall of 2 feet per mile, by Prony's formula, will discharge 4,717,785 gallons per day. To provide a capacity of 25 per cent. over the average flow, and something for deterioration of capacity, will leave it less than required. It provides for 25 per cent. over 3,750,000 gallons, but leaves nothing for deterioration. The pipe, however, will be sufficient if it has a small addition of head. The Aqueduct when discharging 25 per cent. over 7,500,000 gallons, will not be running at its full capacity. If, therefore, this quantity of water is sent down, it will accumulate head on the pipe, until it is sufficient to raise the discharge to the required quantity. The two 30 inch pipes being so situated that they have the aid of such additional head, will be adequate to the discharge required. If the Aqueduct were to carry its full capacity, this extra head on the pipes could not be had. To provide pipes sufficient to deliver 10,000,000 gallons as an average flow, would require about 34 inches, instead of 30 inches diameter, and would add about $7,500 to the cost. This item, together with the extra cost of $3,500 for raising the Long Pond reservoir to 8 feet,—making together $11000,—is all that will be saved in the calculation of cost between Long Pond and Corey's Hill reservoir. But if this principle be adopted, it must be applied to the pipes from Corey's Hill reservoir to the State House, which will require an additional expense of about $50,000. The total extra cost may be safely stated at $65,000.

The estimate will be based on 7,500,000 gallons, and the only object in stating these items, is to show the small extra expense of procuring the larger quantity. This arises from the peculiar circumstances of the projected work.

RESERVOIR AT COREY'S HILL.

It is proposed to locate this reservoir a short distance above the point supposed to have been intended for it by the Commissioners in 1844. This position is as near the City, as the ground permits a reservoir of such dimensions, as it is important to have. The ground is tolerably favorable for a reservoir, containing, on the surface, an area of 8 acres, with a depth of 25 feet. If the ground favored it, a larger reservoir would be proposed, and further examination may lead to some enlargement. The reservoir will contain 53,000,000 gallons.

The water should be taken from the south end of the reservoir to be carried to the City in iron pipes. This gives the shortest line of pipe. It is proposed to make the reservoir in one undivided body. A division into two sections would be desirable on account of the facility it would afford for cleaning out one section while the other was used to supply the City. In order, therefore to provide a method that will not diminish the reservoir area, and to most economically provide means for cleaning out the reservoir, a lateral pipe should be carried from near the end of the Aqueduct, to the pipes at the south end of the reservoir. By a set of gates at the end of the Aqueduct, the water would be shut off from the reservoir, and turned through the lateral pipe, by which means the City would be supplied while the work of cleaning out the reservoir was going on. As the pipe would only be needed when this work was to be done, and the season for it would be cold, requiring the least quantity of water, it might be small; probably two feet diameter would be sufficient.

It is proposed to make the waste weir of this reservoir at a level with the top of the conduit, or say 121.5 feet above tide level. The grade height for it, with water 3 feet 10 inches in the Aqueduct, is 119 feet. But as the water will usually maintain this elevation, on the plan contemplated, it is best to secure this head on the pipes. The water will, at times, fall a little below the level of the waste, but with so large a reservoir as is contemplated, this will be for very short periods. And the variation in height will generally be but a few inches.

The inside slope of the reservoir banks it is proposed to secure from washing, by a dry stone wall. A catch water drain must be carried round on the hill side, to prevent land drainage from falling into the reservoir.

From this reservoir a double line of iron mains will conduct the water to the City. One of these lines and perhaps both, should be carried over the mill dam. The examination has not been so full as to settle this conclusively, but the impression is in favor of carrying the second line, as proposed by the Commissioners in 1844, by the Tremont road. If this shall be found expedient, it will be best to carry the pipe that passes over the mill dam directly to the Beacon Hill reservoir ; and that by the Tremont road into the southerly portion of the City, to serve as a City main, and only connected with the Beacon Hill reservoir by its connection with the general distribution in the City. It was our intention to examine the line by the Tremont road, but time did not permit ; and the estimate for these two mains will be for both of them to be carried to Beacon Hill, or to the State House. This will not materially affect the question of total cost, and the location may be changed, as future examination of the local circumstances may require.

The water in the Corey's Hill reservoir may be taken at a constant elevation of about 121 feet above the marsh level, or ordinary tide, and usually at 121½ feet. The distance to the State House is 20,840 feet, equal to 3.95 miles.

The City reservoir has been assumed at 112 feet above tide. This leaves a fall from Corey's Hill reservoir, of 9.5 feet, as the greatest, and 9 feet, as the least. When a consumption takes place of 5,000,000 gallons, or over, per day, the City reservoir will not be sufficient to provide an equal flow in the pipes for the whole 24 hours. It may be that ground can be had for other City reservoirs than that at Beacon Hill. If this should be found practicable, and within such an expense as would be warranted, then the pipe may be laid of such size as will be sufficient for a regular flow during the 24 hours. This is a matter mainly connected with distribution; and as it is not known that ground will be found, suitable for any other City reservoir, than that proposed at Beacon Hill, the pipes from Corey's Hill will be calculated so as to provide for an unequal flow.

The waste weir of the Beacon Hill reservoir should be placed on a level with that of Corey's Hill, or 121½ feet above tide. The operation will be, that, during the night, when little or no water will be drawn for the use of the City, the water will rise in the City reservoir to, or nearly to, the full height of the water in Corey's Hill reservoir; and when the drawing of water commences in the morning, for the use of the City, the City reservoir will begin to fall, and will gradually subside until the head on the pipes from Corey's Hill, is sufficient for them to furnish the current demand of the City, when the City reservoir will be no further depressed. In order to supply the high district about the State House, this depression must have a limit. The level of the State House floor is 14.55 feet below the surface of Corey's Hill reservoir. If a fall of 8 feet is taken for this limit, the water will be 6.55 feet above the State House floor, when at the minimum level. It is not practicable to determine exactly the amount of this fluctuation. Probably 20 per cent above the capacity of the pipes having an equal flow, will not vary much from the conditions of the case. On this basis two 34 inch pipes will be as small as will answer the object. If two pipes, each 30 inches, be adopted, they will be sufficient to provide for an average of nearly 6,000,000—say 5,500,000 gallons per day. It would economise the first cost to put down two 30 inch pipes at the outset, and make provision in the works to lay a third main of 30 inches, when the wants of the City shall require more than from 5½ to 6 millions of gallons per day. This is a matter, however, that may be left for future consideration; in the mean time, in order to present the estimate so as fully to meet the supply of 7,500,000 gallons, the two mains will be put at 34 inches.

It is proper to remark that no work so imperiously requires a substantial and permanent character, as one designed to supply a large City with water. A breach in a canal, or railroad, may suspend the course of traffic and thereby cause temporary inconvenience ; but to stop, for any considerable time, the supply of water for a large City, might produce, not merely inconvenience, but great suffering. For this enterprise, except for the conduit, the amount of masonry is small ; and all that portion which it will be difficult to repair may be thoroughly executed at a trifling expense, as compared with that of the whole work. There would, therefore, be no apology for adopting a character of work other than such as may secure the highest degree of stability and permanence. These remarks will explain the reason for some of the prices of certain items in the estimate.

ESTIMATE OF THE COST OF LONG POND AQUEDUCT.

From Long Pond to Corey's Hill Reservoir, as follows :—

Long Pond reservoir, as per detail before given,			$38,500
Grubbing and clearing timber—est'd,		$3,000	
Excavation of earth, 200,000 cubic yds. at 20 cts.		40,000	
Excavation of earth, 100,000 cubic yds. at 18 cts.		18,000	
Excavation of earth, 200,000 cubic yds. at 16 cts.		32,000	
Excavation of earth, 285,000 cubic yds. at 12 cts.		34,200	
Excavation of rock, 28,000 cubic yds. at $1.75,		49,000	
Embankment, 320,000 cubic yds. at 13 cents,		41,600	
Back filling, 254,000 cubic yds. at 10 cts.		25,400	
Foundation Wall, 12,200 cubic yds. at $2.00,		24,400	
Piling for foundation in soft ground, est'd,		5,000	
Crossing Boston and Worcester Railroad, estimated,		1,000	
Twelve culverts, viz :—			
Excavation for foundation, 6,000 cubic yds. at 20 cts.	1,200		
Dry wall, 225 cubic yds. at $3.00,	675		
Concrete masonry, 160 cubic yds. at $6.00,	960		
Amounts carried forward,	$2,835	$273,600	$38,500

Amounts brought forward,	$2,835	$273,600	$38,500
Hydraulic stone masonry in abutments and wings, 690 cubic yds. $12.00, - -	8,280		
Arches and coping, 190 cubic yds. at $20.00, - -	3,800	14,915	
Charles River Bridge, viz :—			
Excavation of foundation, 1,000 cubic yds. at 25 cts. -	250		
Bearing piles in foundation, 112 piles, at $2.00, - -	224		
15 M plank, at $12.00, -	180		
600 cubic feet timber, at 12 cts.	72		
Labor of putting down foundation, - - - -	250		
Dry wall in wings, 880 cubic yds. at $2.50, -	2,200		
Hydraulic masonry, viz :—			
In abutments, pier, spandrels and parapets, 480 cubic yds. at $8.00, - - -	3,840		
In arches and coping, 125 cubic yds. at $18.00 - -	2,250		
Embankment, 2,000 cubic yds. at 12 cts. - - -	240	9,506	$298,021
Bulk head, Aqueduct, &c. viz :—			
Foundation, exclusive of concrete, - - - -	1,000		
30 cubic yds. concrete, at $6.00, - - - -	180		
320 cubic yds. stone masonry, at $7.00, - - -	2,240		
30 cubic yds. cut stone in coping, jambs, and lintels, at $20.00, - - - -	600		
Building house, to enclose gate chambers, &c. - - -	800		
Brick pavement in bottom, -	10		
Screen frame, copper screen, 3 composition gates, with fixtures, estimated, - -	500		
500 cubic yds. protection wall, at $2.00, - - -	1,000	6,330	
80,450 feet lineal, of brick conduit, at $5.25, - - - - - -		422,362	
Amounts carried forward,		$428,692	$336,521

Amounts brought forward,	$428,692	$336,521
13,300 feet lineal of conduit requiring extra masonry of concrete and stone, at $6.00, - - - - -	79,800	
3 waste weirs, at $1500, - - -	4,500	
7 ventilators, at $400, - - -	2,800—	$515,792
Expense of clearing water from work, between Long Pond and Jennings's mill, - - - -		15,000

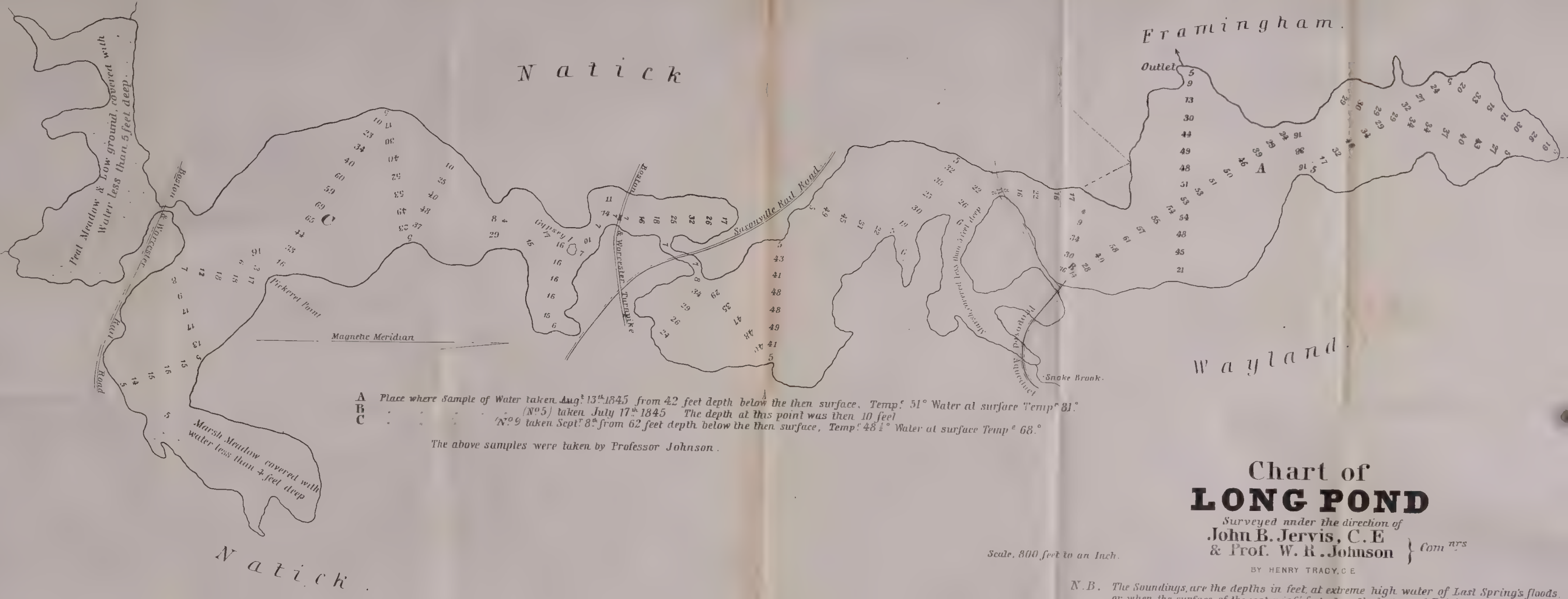
Pipes across Charles River and Brighton Valleys, viz.

11,000 cubic yds. excavation, at 12 cts.	1,320	
500 " rock excavation, at $1,50	750	
10,800 " embankment, at 12 cts.	1,296	
9,300 " filling over pipes, at 8 cts.	744	
4 influent and effluent gate chambers, with gates, &c. complete—est'd, - -	10,000	
6,000 lineal feet of 30 inch iron pipe, laid down, at $10,38, - - - -	62,280	
4 branches, with waste cocks, - -	800—	—77,190
		944,503
Add for contingencies and superintendence, 10 per cent., - - - - - - - -		94,450
Total cost to Corey's Hill reservoir, - -		$1,038,953

Corey's Hill Reservoir, viz.

Excavation for foundation, 6,000 cubic yds. at 12 cts. - - - -	720	
Embankment, 92,000 cubic yds. at 17 cents, - - - - - -	15,640	
Puddle wall, 11,000 cubic yds at 50 cts.	5,500	
Protection wall and facing inside of reservoir, 4,500 cubic yds. at $2,00 -	9,000	
Pipe vaults and appurtenances, to take water from the reservoir, - - -	3,000	
Waste wier, for reservoir, - - -	2,000	
24 inch pipe, to supply the main pipes when the reservoir is cleaning out, or undergoing repairs, 800 feet, at $7,43	5,944	
Trenching and filling—est'd, - -	400	
Gate chamber and gates at end of aqueduct, to turn water into the above pipes, - - - - - -	1,500	
Stop cocks—2 for 34 in. pipes, at $475	950	
" " —2 " 24 in. " " $250	500	
Amounts carried forward,	$45,154	$1,038,953

Amounts brought forward,	$45,154	$1,038,953
Copper screens over pipe heads, with supporting frames, - - - -	$250	
Wooden railing round reservoir, protecting the reservoir, and the inside to protect the work—total 6,000 feet lineal, at 50 cts., - - - -	3,000	
	48,404	
Add for contingencies and superintendence, 10 per cent., - - -	4,840	
Total for Corey's Hill reservoir, - -	$53,244	53,244
Pipe from Corey's Hill to Beacon Hill (double line,) viz.		
Arches, &c. at gates in mill dam—est'd,	13,272	
Two culverts, - - - - -	1,200	
20,840 × 2 = 41,680 feet lineal of 34 inch pipe, at $11,60, - - -	483,488	
15,000 cubic yds. puddling around pipes, to protect them from salt water, at 60 cts., - - - - -	9,000	
Excavation of trench, earth 109,000 cubic yds. at 12 cts. - - - -	13,080	
1200 cubic yds. rock exc. at $1,50, -	1,800	
Embanking and filling, 89,000 cubic yds. at 12 cts., - - - - -	10,680	
4 stop cocks, at $475, - - -	1,900	
4 waste cocks and branches, at $200, -	800	
4 air cocks, at $150, - - -	600	
	$535,820	
Add for contingencies and superintendence—10 per cent., - - -	53,582	589,402
Total cost of works for bringing water to Beacon Hill, including superintendence and contingencies,		$1,681,599


Natick
Framingham.
Outlet
Wayland.
Peat Meadow & Low ground, covered with Water less than 5 feet deep.
Boston & Worcester Rail Road
Pickerel Point
Magnetic Meridian
Gypsey I.
Boston & Worcester Turnpike
Saxonville Rail Road
Aqueduct
Snake Brook.
Marsh Meadow covered with water less than 4 feet deep
Natick.
A
B
C

A Place where Sample of Water taken Augt 13th 1845 from 42 feet depth below the then surface. Tempe 51° Water at surface Tempr 81.°
B " " " " " (No 5) taken July 17th 1845 The depth at this point was then 10 feet
C " " " No 9 taken Septr 8th from 62 feet depth below the then surface, Tempe 48 ½° Water at surface Tempe 68.°

The above samples were taken by Professor Johnson.

Chart of
LONG POND

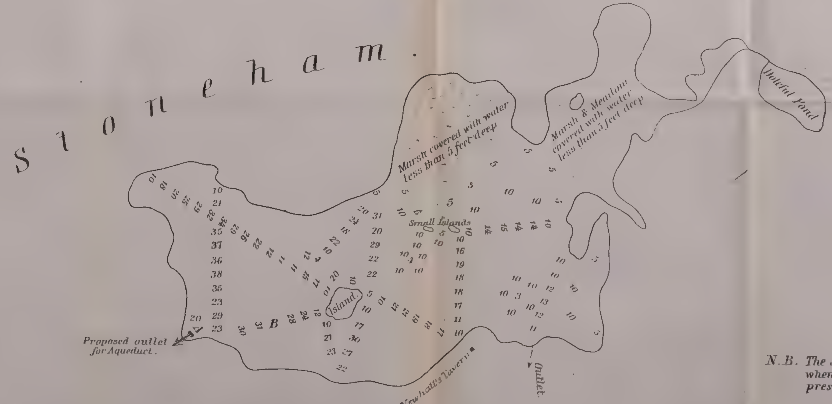
Surveyed under the direction of
John B. Jervis, C. E
& Prof. W. R. Johnson } Comnrs

BY HENRY TRACY, C E

Scale, 800 feet to an Inch.

N.B. The Soundings, are the depths in feet, at extreme high water of Last Spring's floods, or, when the surface of the water, is 6½ feet above the bottom of Knights flume, at outlet
Long Pond, contains 659 acres

LITH of E W BOUVE, BOSTON


Stoneham.
Marsh covered with water less than 5 feet deep
Marsh & Meadow covered with water less than 3 feet deep
Doleful Pond
Small Islands
Island
Proposed outlet for Aqueduct.
Newhall's Tavern
Outlet.
A
B

A Place where sample of Water No 3 was taken July 17th from the surface. the depth at this point was then 13 feet
" " " " No 8 was taken Septr 3d & 6th
B " No 10 was taken Augt 26th from 26 feet below the then surface, Tempe 61½° Tempe of water at the surface 81°

The above samples were taken by Professor Johnson.

Chart of
SPOT POND,

Surveyed under the direction of
John B. Jervis, C.E.
& Prof. W. R. Johnson } Comnrs

BY HENRY TRACY, C.E

N.B. The Soundings are depths in feet, at extreme high water of Spring floods, or when the surface of the water is 7 feet above the sill at the bottom of the present outlet. Spot Pond contains 296 acres.

Scale, 800 feet to an Inch

LITH of E W BOUVÉ BOSTON

CHARACTER OF THE WATERS.

1st. *Temperature.*—In our account of the gauging and other examinations of Long Pond, we exhibited the result of some of our daily observations on the temperature of the surface waters of Spot Pond, Long Pond, and Charles River. Another point, of some interest in connection with temperatures also engaged our attention.

When a water source becomes low, and the sun's rays penetrate it to a considerable depth, the whole body of water becomes, in consequence, more fit than it would otherwise be for the abode of insects, the production of confervae, the decomposition and solution of substances insoluble in very cold water, and imbibes an odor and a flavor, peculiar to stagnant pools and offensive both to taste and smell.

Deep lakes, on the other hand, preserve, at bottom, nearly a winter temperature through a considerable portion of the year. This maintains their waters in a state of comparative purity, and at least prevents the existence of a fenny taste and odor, and the presence of excessive swarms of animalcules. Loose and porous soils on the water-shed, by favoring the descent of rains into the earth, and their final exit into the lake by under-ground drainage, or "springs," tend to maintain a low temperature in the lake waters, during warm seasons.

To obtain the desired information on the subject of temperatures, we made a number of trials of the waters from the bottom, or from intermediate depths, of Long and Spot Ponds.

The means employed to obtain the bottom waters were very simple. A new, clean, earthen jug, containing about one gallon, was suspended by its handle to a cord, and sunk by means of weights—care being taken to attach the latter in such a manner as to preserve the vessel in an upright position. To the stopper of the jug was attached a separate small cord, by which it could be drawn when at the requisite depth. As soon as bubbles of air ceased to rise, the jug was rapidly raised, and the bulb of a thermometer inserted to ascertain the temperature. The non-conducting character of the earthen ware is considered to have prevented any material increase of temperature while it was rising through the water.

It needs hardly be stated that in these trials of deep water, care was always taken to make the jug perfectly clean by repeated rinsings before the bottom water was taken in.

1. The first trial for deep water was made at Long Pond, on the 13th day of August, with a view to discover the difference in temperature between the bottom water and that of the surface. By several trials, near the outlet, as well as in the middle of the lower division of the Pond, the surface temperature was 81°, and that of water drawn from a depth of 42 feet was 51°. The water, when taken up from this depth, was transparent, colorless, inodorous and tasteless. A little light, greyish earthy matter was suspended in it, which, on repose, settled to the bottom. A single larva of an insect was observed in the gallon of water taken from this depth. The boat having no anchor, the weight dragged over the bottom and probably raised this sediment.

2. The next trial for the temperature of bottom water was made at Spot Pond on the 16th of August. Relying on the best information which could then be procured, the point selected for deepest water, was nearly south from the island, and about midway between it and the south east shore of the pond. From this point, where the depth at the time was 28 feet, a sample was taken up in the jug, which had a temperature of 60°—while the surface water, at the same time, was at 78°. The water had a chalybeate taste, an orange yellow color, and the usual odor of chalybeate waters—caused, no doubt, by the presence of carbonate of iron. It contained larvae, similar to the one found in No. 3,* but had none of the smaller animalcules, at least in a living state.

3. The next trial was intended rather to verify the character of the water found at the above point, and to ascertain from analysis its true composition, than to determine again the temperature. This trial was made on the 26th of August, the temperature of the surface water being 78½°. This sample taken from a depth of 26 feet, had a temperature of about 61½°, and a color slightly lighter than the preceding. To procure the requisite quantity of 3 or 4 gallons it was necessary to sink the jug several times. It brought up constantly the same material. The sample thus procured is No. 10 in the table of Mr. Silliman's analyses. At the time this sample was taken up, the water in the pond was 5 2-10 feet below the level of the high water mark drilled in the rock at the dam, and within 10.08 inches of the lowest level which it attained when exhausted, as on the 1st of November. Water of the same color and character was again drawn up at this point on the 6th of September, as will be related hereafter.

4. The next trial was made at Long Pond on the 8th of

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* See Mr. Silliman's Report in the Appendix.

September, and in the southern or upper division of it, between an old brick-yard, on the southwest side of the pond, and a projecting headland on the northeasterly side, called Pickerel Point—at which the soundings made by the surveyors had proved the deepest water to exist. (See chart of Long Pond at letter C.) In the place where this sample was taken the depth was found to be 62 feet; and, by the arrangement before described, the water entered the jug two feet above the bottom of the pond, so that it actually came from a point 60 feet below the surface. Its temperature when taken up was 48½°, that of the surface water being 68°. From this it should seem that the temperature preserved at the bottom of this part of Long Pond, through the heat of summer, is nearly that of the mean annual temperature of the region in which it lies. The mean temperature of the year, at Salem —according to Dr. Holyoke's observations—from an average of 43 years, is 47°09 Fahr. The mean temperature of the year 1844 at Saxonville on the borders of the Long Pond district, was by Mr. G. A. Hyde's observations 44½°.

The water taken from this depth is numbered 9 of Mr. Silliman's Analyses. It contained, when first taken up, a little flocculent matter, of a brownish tint; had a faint yellowish color; was void of smell, and nearly insipid. At a depth of 50 feet, the water was rather more transparent, with about the same color.

5. After water had been so repeatedly drawn from the depth of 26 and 28 feet, possessing the remarkable properties described by Mr. Silliman as pertaining to No. 10, it became a question to determine whether a change of temperature in the water above it, would compel the colored, chalybeate water to rise and intermingle with the rest. Before his report was in our hands, we could not positively infer any thing in relation to its specific gravity, and could not, therefore, decide whether a certain amount of change in temperature would cause the colored water at 62°, to rise and take the place of the uncolored water, say at 50°. To ascertain, however, whether the advancing cold weather had effected any change in this respect, a trial was made at the same spot from which Nos. 8, and 10 had been collected. (See B, Chart of Spot Pond.) A jug of water was there taken up on the afternoon of October 25th, at a time when the surface water was 51½°. This was drawn from a depth of 26 feet, where the total depth was 28 feet. It had only a slight yellowish tint, with a smell like that of waters feebly chalybeate, and a temperature of 51°. It hence became apparent that the colder surface water had almost completely displaced the colored fluid, a sample of which had, on the 6th of September, been drawn up from the same part of the pond. The water now drawn up contained, be-

sides the larger larvæ as seen in sample No. 10, innumerable smaller animalcules, not one of which had been found alive in that sample. By reference to the daily observations on temperature, we found that the surface water had, on the morning of the 26th of September, become reduced to 59°—or was 2½° colder than the yellow water had been on the occasions on which it was previously tried, on the 16th and 26th of August, and 6th of September. Subsequent observations had, several times, found the surface-temperature below 50°. This change was obviously sufficient to make the water at the surface and that at the bottom change places, unless a marked superiority in specific gravity should keep the latter in its place notwithstanding the change of temperature. The experiment proved that the change of place had not been prevented. Though strongly impregnated with carbonate of iron, and deeply tinted with apocrenic acid, the specific gravity of the yellow water was not, it appeared, sufficient to resist displacement by the colder descending current. It had evidently been intermingled with the rest of the water of the pond. The insects had doubtless gone down with the descending current of clearer water, and now found the bottom of the pond more congenial to their nature than the surface. By reference to Mr. Silliman's report it will be observed that the water No. 10, had not an extraordinarily high specific gravity; but, rather in the state in which it was after depositing its carbonate of iron, and only retaining apocrenic acid as a coloring material—had really a very low degree of density, certainly no such weight as could keep it at the bottom of the pond through the autumnal and winter months.

2d. *Animalcules in water.* As connected with the chemical examinations, we would not omit the exceedingly interesting investigation by Prof. Bailey, of the fine sediments found in all the waters, after some weeks of subsidence. This investigation, both of the waters and their sediments, should seem sufficient to settle several of the questions which have heretofore been discussed with so much zeal and earnestness. They prove that, in all these waters, infusorial insects* were found at the time they were first taken up; that, by being kept for some few weeks in close vessels, they generally died; that in the Charles River, both at Watertown and at Natick, in the Schuylkill, and in the Croton, these animalcules were abundant, and more numerous in this last mentioned celebrated excellent and beautiful river water, than in any other sample examined.

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* Technically speaking the term *insect* is not perhaps strictly applicable to the classes of animated beings now referred to. We use the word in its proper sense.

The researches of Professor Bailey* show that in the sediment of Spot Pond—(No. 3,) were found the remains of six varieties of these infusoria; and our own examinations had previously detected the cyclops, in a living state, pretty numerous, and the larvæ of some larger insects. In the sediment from the water of Long Pond, he detected the same number of kinds of exuviæ, and, in part, the same species as in Spot Pond; and when the water was first taken, we had also found, in that sample—(No. 5) the cyclops in small numbers. In the water of Charles River, from Watertown, (No. 6,) it will be observed that he detected eleven species of exuviæ, without naming the cyclopa which we had previously observed in a living state, in great numbers; and in the water of the same stream, collected at South Natick, he detected twelve species also, without including the cyclopa. Eight species, out of the eleven from Watertown, are also found in the waters of South Natick; and of these eight, three are not found in any other water of the series.* The well from which water No. 11 was drawn, furnishes, at times, water abounding in animalcules; not however when highly charged with mineral matters, as it was in summer, and at the time the sample for analysis was taken. When after the middle of November the cold surface water of the well mixed with and displaced that which had before been at the bottom, the insects were carried down with the descending current and began to be brought from the bottom by the pump.

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* See Letter from Professor B. in Mr. Silliman's report.

For convenient reference to figures of the various species of infusoria found in the several samples of water, we annex the following list, in which names of animalcules observed when the water was collected, are added to the names given by Professor Bailey, and as far as practicable, the *orders*, *plates*, and *figures*, of Ehrenberg's "Infusionsthierchen," are subjoined. The ORDERS of infusoria are inserted after the specific names.

Number 1—*Mystic Pond.* Naviculæ—Baccillaria, plate 13, 14, 21. Fragillaria—Baccillaria. Tabelaria trinodis, (not figured.)

Number 2—*Croton River.* Eunotia gibba—Baccillaria, plate 13, 14, 21. Baccillaria (alive.) Anuraea stipitata (carapaces)—Baccillaria, plate 62, fig 11. Cyclops discovered when waters were first collected.

Number 3—*Spot Pond Outlet.* Entomostraca. Gallionella distans—Baccillaria, plate 21, fig 4. Anuraea stipitata—Baccillaria, plate 62, fig 11. Difflugia proteiformis, Arcellina, plate 9, fig 1. Naviculae (living)—Baccillaria. Monads (see Plate 1 and 2, for various species.) Cyclops, observed when first collected. Larvae of musquito, or other similar insects.

Number 4—*Schuylkill River.* Difflugia proteiformis—Arcellina, plate 9, fig. 1. Cocconema cymbiforme—Baccillaria, plate 19, fig. 8. Navicula sigma—Baccillaria, plate 13, fig 12. Arthrodesmus quadricaudatus—Baccillaria, plate 10, fig 16. Desmidium hexaceros—Baccillaria, plate 10, fig 10. Polygastrica, gelatinous (living.) Cyclops, observed in newly collected sample.

Number 5—*Long Pond Outlet.* Gallionella distans—Baccillaria, plate 21, fig 19. Desmidium hexaceros—Baccillaria, plate 10, fig. 10. Difflugia proteiformis—Arcellina, plate 9, fig. 1. Closterium crenulatum—Closterina, (not figured.) Cyclops, fragments of, plate 8, fig's. 1 and 2. Daphne, fragments of, plate 30, fig. 7. Living monads, plates 1 and 2.

Number 6—*Charles River*, *Watertown.* Tabelaria trinodis—(this species not figured). Arthrodesmus quadricaudatus—Bacillaria, plate 10, fig. 16. Eunotia monodon—Baccillaria, (this species not figured.) Gallionella distans—Baccillaria, plate 21, fig. 4. Pinnularia viridis, (not figured.) Himantidium arcus, (not figured.) Cocconema cymbiforme—Baccillaria, plate 19, fig. 8. Surirella splendida, (not figured.) Actinophrys Sol—Enchelia, plate 31, fig. 9. Euglena—Astaciaea, plate 7. Euastrum margaritiferum—Baccillaria, plate 12, fig. 97. Cyclops, observed living when water was collected.

Number 7—*Charles River*, *South Natick.* Tabelaria trinodis, (not described.) Pinnularia viridis, (not described.) Navicula sigma Baccillaria, plate 13, fig. 12. Gallionella aurichalcea—Baccillaria, plate 10, fig. 6. Surirella splendida, (not figured.) Synedra ulna—Baccillaria, plate 17, fig. 1. Navicula gracilis—Baccillaria, plate 21, fig. 12. Himantidium arcus, (not figured.) Arthrodesmus quadricaudatus—Baccillaria, plate 10, fig 16. Cocconema cymbiforme—Baccillaria, plate 19, fig. 8. Euastrum margaritiferum—Baccillaria, plate 12, fig. 7. Spongilla, (spiculae.) Cyclopa, observed in newly collected water.

Number 8—*Spot Pond*, 11 *feet deep.* Gallionella distans—Baccillaria, plate 21, fig. 4. Navicula gracilis—Baccillaria, plate 21, fig. 12. Fragilaria pectinalis—Baccillaria, plate 15, fig. 4. Euglena viridis—Astaciaea, plate 7, fig. 9. Synedra ulna—Baccillaria, plate 17, fig. 1. Desdmidium hexaceros—Baccillaria, plate 10, fig. 10. Cyclops—plate 8, fig's. 1 and 2. Synedra gaillonii—Baccillaria, plate 17, fig. 2. Conochilus volvox—Oecistina., plate 43, fig. 8.

Number 9—*Long Pond*, 62 *feet deep.* Tabelaria trinodis, (not figured.) Gallionella distans—Baccillaria, plate 21, fig. 4. Gallionella aurichalcea—Baccillaria, plate 10, fig. 6. Surirella splendida, (not figured.) Synedra ulna—Baccillaria, plate 17, fig. 1. Cocconema cymbiforme—Baccillaria, plate 19, fig. 8. Eunotia Westermanii—Baccillaria, plate 14, fig. 6. Navicula Suecica—Baccillaria, plate 27, fig. 18. Euglena. Anuraea stipitata—Baccillaria, plate 62, fig. 11.

Number 10—*Spot Pond*, 26 *feet deep.* Conferva. Oscillatoria. Gallionella aurichalcea—Baccillaria, plate 10, fig. 6. Tabelaria trinodis, (not figured.) Synedra ulna—Baccillaria, plate 17, fig. 1. Spongilla, (spiculae.) Monads. Larvae of insects like musquito, when first collected.

We hence regard all sensitiveness on this subject as misapplied, and all attempts to discredit a water, merely from the fact of its containing a few animalcules, as wholly unreasonable and unjust. Lakes and rivers alike contain them; reservoirs and wells will frequently produce them; and in summer, few water sources are without these delicate tenants, unless impregnated with the juices of stagnant marshes, or poisoned by mineral compounds noxious to their frail and perishable natures. It is not intended to assert that a source *may not*, from its shallowness, stagnacy, high temperature, and other causes, become offensive on account of its excessive productiveness of animalcules. But none of the samples of water which we obtained from the points where it has been proposed to take out conduits or aqueducts for the city, had any thing objectionable in this respect. Of the samples from the three principal sources above discussed, Long Pond water had the fewest animalcules; Spot Pond had more, and Charles River the greatest number.

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* Pinularia viridis, Himantidium arcus, and Euastrum margaritiferum.

DESCRIPTION

AND

ANALYSIS OF WATER

FROM THE SEVERAL SOURCES.

Some valuable researches have heretofore been made in relation to the characters of the waters furnished by the several sources, from which it has been proposed to supply the City of Boston.

It appeared to us however, that on some questions relating to localities and depths of waters, as affecting their chemical constitution, further information was necessary.

A direct comparison between waters of well established fame, used in other cities and those found near Boston was, also deemed desirable.

To perform these analyses we engaged the services of Benjamin Silliman, Jr. Esq. whose skill and abilities, and the stores of whose well provided laboratory, have enabled him with promptitude to complete the desired researches and to make the report which we have the pleasure herewith to present.

We will only remark, that until after his report had been placed in our hands, Mr. Silliman had no knowledge whatever of the particular sources of the several samples of water which he had analysed. They had been delivered to him by numbers, and consequently the designations of the waters contained in brackets at the beginning of each of his descriptions have been added by ourselves.

Number 1.

The water No. 1, was a sample taken at 11 h. 55 m. A. M. August 16, from Mystic Pond, about 60 rods above the outlet, and from 100 to 150 feet from the southern shore, where the water was from 10 to 11 feet deep and very clear.

The tide which had at the above hour been setting into the pond, turned during the time of collecting the water, and in 20 minutes had fallen at the outlet from 5 to 6 inches.

The object of collecting it at this time was to ascertain how far the tide affected the quality of the water of the pond. Former analyses by eminent chemists have given the characters of the water of this pond, as it was probably found either at other points of the pond or at different stages of the tide, or possibly at different seasons of the year. No doubt exists of the accuracy of their determinations of the ingredients *in the waters before them;* but it seemed desirable to know the extent to which the water of this source may be rendered impure by the influx of the tide, and the necessity which would exist in case of employing it either as a principal or an auxiliary to exclude the waters of Mystic River. The analysis shows it to have been far more impure than any other sample examined, if we except that of Boston well water, which was numbered 11, and which Mr. Silliman describes in the appendix to his report. It is, in fact, dilute sea water.

Number 2.

Sample numbered 2, is from the upper reservoir of the Croton Water Works in the City of New York, taken at the southeastern angle and near the gate-house, where the pipe leading to the distributing reservoir is taken out. The water at the time was flowing over the waste weir in the dividing wall of the two parts of the reservoir. It was collected on the 25th of August. When taken up this sample contained insects in very great numbers, and light flocculent matter in small proportion. The number of animalcules in it appeared to be greater than in any of the other samples. They were, however, mostly very minute and delicate. When laid under the microscope and the water allowed gradually to dry, the body contracted externally,—burst, and appeared to undergo rapid decomposition so that in a few minutes every trace of its original form was lost.

This proves how little these minute creatures can resist the decomposing action of external causes when withdrawn from their natural element—pure water.

Number 3.

The sample of water marked 3, was taken on the 17th of July, at 2 P. M. from the place where it has been proposed to take the water from Spot Pond for the supply of the City, at a point 150 to 200 feet from the shore between the high mass of rock at the west, and a projecting point of rocky shore on the east. This point is remote from all vegetable growth, and the depth of water at the time was 13 feet. The high water line was at the same time measured on the perpendicular face of the rock where it is conspicuously seen, and was found to be 4 feet 6 inches out of water. The water level was, therefore, at about a medium stage between the ranges which it has been proposed to give to the highest and lowest levels if used for a supply to the City. The water at the present outlet of the pond was at the same time 33.2 inches deep above the sill of the gate and its surface 46.4 inches below the high water-mark as indicated by a hole drilled in a rock upon the dam. From the marks on the high rock near where the sample of water was taken, it appears that the drilled water mark is sometimes covered upwards of 7 inches deep. Hence the level at the time of collecting the specimen was doubtless fully 4 feet below *ordinary* high water. This point is important in view of the quality of the water collected at this season, and at this stage of the exhaustion as compared with that which might be collected early in the season, while the pond was full of water derived from melted snows and the copious rains of winter and spring, which flowing upon the surface of the pond constitute a mass almost chemically pure. This mass being more highly heated with the advancing season than that which lies at the bottom, must retain its place, from its superior levity and greater freedom from chemically combined earthy and metallic impurities, which, when added, increase the specific gravity of pure water.

On a change of seasons, however, from summer to auautumn, a change of positions must take place, and the warmer bottom waters must rise to replace the colder portions at the surface. When first taken up, this water had a light greenish yellow tint, with little odor. A considerable quantity of particles of matter, brownish and flocculent, was diffused through it. In this sample are very numerous infusorial animalcules, distinguishable by the naked eye, the more remarkable being the cyclopa moving with their usual nimbleness and activity. One or two larvae of larger insects were also visible. The appearance of the flocculi, which after a little time sank to the bottom of the bottle, suggested that they were the exuviae of the animalcules which inhabit the waters of this pond—an idea fully confirmed by the subsequent observations of Prof. Bailey. (For the locality at which this sample was taken, see Chart of Spot Pond, at letter A.)

Number 4.

The sample of water No. 4, was taken from the Schuylkill River, Philadelphia, just above the Fairmount dam, and below the boom about 200 feet above the entrance into the forebay by which the water passes to the wheels and pumps. It was collected August 23d, at 4½ o'clock, P. M., when the water was running over the dam at a depth of 7½ inches. Several rains had previously fallen in the neighborhood, and the water was rather turbid with suspended reddish earthy matter,—the usual visible impurity of that stream. When carefully examined, after the earthy matter had subsided, this sample exhibited a few cyclopa and other animalcules, the water became almost perfectly clear and was wholly free from taste or odor. The suspended matter when collected in the angles at the bottom of the jar, was of a light yellowish hue. On the day following that on which this sample was taken, the water of the river became so turbid, from recent rains, as to be unsuitable for the reservoir, and the pumping, as usual on such occasions, was suspended.

The Schuylkill doubtless, like other rivers, furnishes at different seasons, waters varying much in their degrees of purity. When rains fall in the district of country near the mouth, much surface water, with little combined mineral matter, will pass into it and be found at the outlet. In a season when rains fall only near the *head*, or in times of long drought, a long course traversed in a shallow stream, brings the water to the mouth charged with all the accumulated mineral substances with which it can be furnished by the bed of the stream or which may, before reaching it, have been received from under-ground drainage.

Number 5.

Sample No. 5, from the point at which it has been proposed to take the aqueduct from Long Pond, was collected on the 19th of July, over a depth of about 10 feet, and wholly out of the influence of any vegetable growth on the shore or bottom. The water was observed to be free from taste and smell, and to contain but very few animalcules, with a slight quantity of brown flocs distributed through it. In the same division of Long Pond from which this sample was taken, have also been collected as before stated, specimens from a depth of 32 and 42 feet, which on repose became perfectly transparent and nearly or quite colorless. (For the localities of these samples, see Chart of Long Pond, letters A. and B.)

Number 6.

Sample No. 6, was taken on the afternoon of July 26th from Charles River, at Watertown, 150 feet above the lower dam, where the current appeared to be the most rapid. When first collected its odour was strongly marked by the peculiar smell of marsh water; floating fibres were numerous, and at least two species of animalcules were observed. The taste was somewhat styptic,—savored decidedly of stagnant pools, and was characterized by a kind of astringency like that left on the tongue by tan, or certain slightly acrid barks and roots. This continued to be perceived for half an hour after tasting the water. After several weeks the insects died—the odour was nearly lost, and only the peculiar styptic taste remained. When first collected the taste of this water was highly objectionable.

NUMBER 7.

Sample No. 7, is from Charles River at South Natick. It was collected in a mill pond at that place midway between the banks and by estimation about 200 feet above the dam. This water had a yellowish color, a taste and odour both savoring of the marsh—and animacules in small numbers. As measured on Hales' map, South Natick is about 25 miles by the course of the river above the lower dam at Watertown.

NUMBER 8.

The sample of water No. 8, was taken on two occasions from Spot Pond, at a point half way between the Island and the south east shore towards the proposed outlet, where the water was from 26 to 28 feet deep. The first half of it was collected September 3d, and the second, September 6th; the former at a depth of 13, and the latter of 9 feet. The second portion was taken in the presence of the proprietor of the pond and a party of gentlemen from Boston. On the latter occasion several other samples had been taken up for inspection, from different depths. One from 20 feet depth had nearly the same tint as that now under consideration only a little deeper, and the same appearance of innumerable short filaments of a greenish white color was seen throughout. Subsequently from a depth of 26 feet was drawn up a sample possessing the yellow color, chalybeate taste, and all the other sensible properties which so remarkably distinguish the specimen No. 10, hereafter mentioned, as described and analyzed by Mr. Silliman. The sample No. 8, was remarkable for retaining in suspension the greenish material above described—a material which, doubtless gives rise to the "*green scum*," which was, in numerous instances, seen by the observers at Spot Pond to cover the surface when, late in the season, the water was undisturbed by winds. It formed in like manner a scum in the jar containing the samples analyzed. (For the locality see the Chart of Spot Pond, at letter B.)

NUMBER 9.

Water No. 9, was collected on the afternoon of the 8th of September in the southern division of Long Pond, between the projecting head-land known as "Pickerel Point," and the site of an ancient brick-yard,—at a place where the depth was 62 feet. Some particulars respecting it have already been given in speaking of the temperatures of the bottom waters. It was slightly turbid when first drawn up, and this character, due to very light, finely divided, solid matter suspended thoughout the water,—it retained, until taken for analysis. The taste was slightly marshy. The point where this sample was collected is about 2 miles from the proposed outlet for the Aqueduct. (See map of Long Pond, at letter C.)

NUMBER 10.

This sample is from a depth of 26 feet in Spot Pond. Its properties are peculiar and it will be found fully described in a preceding part of this report and in that of Mr. Silliman. We may remark that its orange yellow color grew darker after being sometime exposed to air and light, and a flocculent or rather delicate, fibrous precipitate fell down, rendering the liquid which had at first been transparent, partially turbid and opake. A few larvae of musquito, or some similar insect, were the only living animalcules detected when first taken up. After some days these died, and their exuviae were seen floating in the water. After depositing its iron, the water became again transparent, but of a deep yellowish brown color.

NUMBER 11.

No. 11. (See appendix to Mr. Silliman's report.) To afford a standard of comparison between the various waters analyzed and those now habitually used by many citizens of Boston, a sample was sent to Mr. Silliman from a well in a high part of the City, which has been regarded by those who used it, as affording water of superior quality. This well belongs to James K. Mills, Esq., No. 20 Beacon Street, and supplies with water for drinking and other domestic purposes an adjoining house. It is 70 feet deep, and is consequently presumed to descend several feet below tide level. The pump is a wooden pipe which may, in part, account for some of the vegetable organic matter found in the water. About the 12th of the present November (subsequent to the copious rains in the early part of the month,) the water of this well was observed to have become slightly milky in its appearance and to contain some animalcules; none of which, had been noticed during the summer. At the same time, the saline taste was greatly diminished, and the water appeared to be a dilute solution of what it had been during the whole summer and autumn previous. This change in character may probably be due to a reduction of temperature in the fresh surface-water, in the well, causing it to descend and displace or mix with the saline water at the bottom, effecting thereby an intermingling similar to that which took place at Spot Pond in the water from which No. 10 was taken, as heretofore described.

RESULTS OF ANALYSIS.

From the researches of Mr. Silliman we have constructed for convenient general reference, a table exhibiting the more important properties of the several waters. For an exposition of those characters which came more conspicuously into view only during his analytical operations, we must refer to the body of his report itself. It will there be observed that the analyses were made on a scale of ample magnitude to insure correct results, and that the general methods of research employed were those on which chemists rely with the greatest confidence. The plan of operating has given the amount of solid matter in the bulk of one United States standard gallon—as well as in 100,000 parts by *weight* of each matter.

The course of investigation has demonstrated the existence in these samples of water of certain materials not heretofore *usually* detected in the waters of lakes and rivers—such as chloride of sodium, silica, and the phosphates of iron and alumina.

A point on which some inquiries of great practical interest have been made by Mr. Silliman is the action of the waters upon lead. A column of the following table exhibits the results of his experiments, showing, that with two exceptions, the waters dissolved notable quantities of that metal when subjected to their action. The water of the Croton River appeared to exercise no influence whatever upon the lead, and that of Long Pond, but little apparent effect except, very slightly to increase, instead of diminishing the weight of the strip of lead employed in the trial.

The softness of the several waters when used with soap was tested, and the results are numerically arranged according to the order of excellence, as seen in pages VII. and VIII. of the Appendix.

Careful observations were made on the phenomena successively presenting themselves while each sample was undergoing evaporation or ebullition—the changes of color, the deposition of sediments, the formation of crusts and the like, and also on the behaviour of the dry residues while undergoing ignition; whether they deflagrated, betraying the pressure of nitrates, or simply gave off the odours of burning animal or vegetable organic matters.

The analyses afford the means of instituting direct comparisons between the waters of Boston and those of two other cities, celebrated for their fine water-works and excellent water.

The chemist at the time of rendering his report supposed all the samples on which he had been operating, to have come from the vicinity of Boston, and that they were all from a primitive country. The Croton and Schuylkill waters, (Nos. 2 and 4) had, it is true, among their solid residues, yielded larger proportions of carbonate of lime than any other; but these did not appear sufficient to place them among limestone waters; and indeed neither of them can be so regarded, for both rivers flow to a great extent over primitive and other siliceous rocks. With a view of instituting a comparison between the *Boston* waters, as he then suppposed *all* which he had analysed to be, and those of the Croton River, Mr. Silliman obtained the analyses of Dr. Chilton, of water from the New York hydrants, and of that taken directly from the Croton river.

These latter analyses show some difference of the samples from each other, as well as from that taken by us, from the upper New York reservoir on the 25th of August last; but no greater than may doubtless be found in the waters of the same stream collected at different seasons. They all concur, however, in one particular, that of showing that the waters of the Croton contain considerably more foreign matter than several of the waters in the neighborhood of Boston. The researches of Dr. Jackson and Mr. Hayes,—chemists of preeminent abilities, who have heretofore examined the Boston waters, lead to the same conclusion; and prove that if the inhabitants of Boston use, at present, waters inferior in quality to those of New York or Philadelphia, it is not because much better waters than are possessed by either of their sister cities are not within their reach. The table below proves that Mr. Silliman obtained from water No. 5—(Long Pond, near the outlet)—less than one-third as much foreign matter as from that of the Schuylkill, and but little more than one-sixth as much as from the Croton. The water taken by us from the *surface* of Spot Pond, near the proposed outlet of conduit, is scarcely less pure than that from Long Pond. The analyses of former years, indeed, showed the water of Spot Pond to have been a little less charged with foreign matter than that from Long Pond. Both are so nearly free from impurity, that Mr. Silliman says of them—" Indeed, Nos. 3 and 5 are almost good enough for any chemical purpose whatever."

In addition to the foregoing particulars, the report furnishes information on two points which we deemed worthy of elucidation. By comparing, in the table and in the body of the report of Mr. Silliman, the results on No. 3, with those on Nos. 8 and 10,—and those on No. 5 with those on No. 9,—it will be seen that sample No. 8, from a depth of about 11 feet in the middle of Spot Pond, was 45.5 per cent. more charged with foreign material, than that taken 48 days before from the surface at the point of proposed outlet. It also appears that from the same place, at 26 feet in depth, the sample No. 10, taken on the 26th of August, 40 days after No. 3, had 190 per cent. more foreign material than the latter ; also, that No. 9, from a depth of 62 feet in the upper division of Lond Pond, 2 miles from the proposed outlet, had 82 per cent. more solid matter than No. 5, taken from the surface near that outlet 51 days before.

The other point to which we refer, is the difference observed between the samples No. 6 and No. 7—the first from Charles River at Watertown, and the second from the same stream at South Natick ; the latter containing 2.53 grains, and the former 3.4 grains of solid matter in one gallon—or a difference of 31.6 per cent. in favor of the sample obtained 25 miles higher up the river.

So far at least as this trial goes, it proves that running waters are not necessarily purified from chemical compounds, by the mere mechanical action of flowing along their channels. Few, perhaps, will think such a proof demanded ; but as an impression has obtained some currency, that running waters are necessarily purer than those accumulated in lakes, it seemed proper to make some direct trial illustrative of the question. Though the result is perhaps slightly affected by the fact that the water from South Natick was taken up soon after the falling of a shower, it still clearly demonstrates, that had the water then taken, continued its course to Watertown, and there been found like No. 6, (which *was* collected there,) it could only have been by gaining, on the route, some impurity more than it had at the point where it was actually collected.

We have not inserted in the column devoted to *sensible properties* in the table, any remarks of Mr. Silliman's, in relation to the animalcules found by him in a few samples of the water. When first taken up, all of them contained more or less insects. They had generally died before the analysis was commenced.

Synoptical view of the constitution and character of the several samples of Water—derived from Mr. Silliman's Report.

Number of Water.	SOURCE OF WATER.	Specific gravities.	Cubic inches of carbonic acid in one U. S. standard gallon of 231 cubic inches.	Solid matter in 100,000 parts by weight.	Grains of solid matter in one standard gallon.	Grains volatile at redness in one gallon	Anhydrous solid matter in one gallon.	Sulphuric acid in one gallon.	Grains of lead dissolved.
1	Mystic Pond, about 60 rods above the outlet, taken from the surface, 100 to 150 feet from the shore, where the depth was more than 10 feet; collected August 16th, at 11-55 A. M.,	1.000541	10.313	50.752	39.710	6.02	33.68	0.1058	+.587
2	Croton River, upper reservoir, collected August 25th,	1.000060	17.418	18.714	10.930	4.28	6.66	0.0055	+.000
3	Spot Pond, taken at 2 P. M., July 17th, from the surface, near the proposed outlet of conduit. (See Chart of Spot Pond, at letter A.)	1.0000894	9.516	3.647	2.130	0.86	1.25	0.00824	+.093
4	Schuylkill, Philadelphia, collected August 23d, at 4½ P. M.,	1.000016	3.879	9.417	5.500	1.24	4.26	0.0245	+.502
5	Long Pond, collected July 19, from the surface at the point of the proposed outlet of aqueduct. (See Chart of Long Pond, at letter B.)	1.000118	10.719	3.168	1.850	0.63	1.22	0.0044	—.046
6	Charles River, Watertown, collected July 29th, at 6 P. M., 150 feet above the dam,	0.999842	5.058	5.702	3.400	0.85	2.55	0.010	+.046
7	Charles River, South Natick, collected July 22d, at 9 A. M.,	1.000062	0.464	4.332	2.530	0.86	1.688	0.00137	+.062
8	Spot Pond, between the island and south east shore, collected September 3d and 6th, from a depth of 8 and 13 feet, where the whole depth is 26 feet. (See Chart of Spot Pond, at letter B.)	0.999924	5.163	5.308	3.100	1.00	2.100	0.011	+.049
9	Long Pond, upper division, from a depth of 62 feet, collected September 8th. (See Chart of Long Pond, at letter C.)	1.000090	4.549	5.770	3.370	1.16	2.210	0.0037	+.108
10	Spot Pond, 26 feet depth, same locality as No. 8, collected August 26th. (See Chart of Spot Pond, letter B.)	0.999967	a trace	10.598	6.190	1.58	4.62	0.00246	+.216
11	From a well, 70 feet deep, on the premises of James K. Mills, Esq., No. 20 Beacon Street, Boston,	1.001126	35.040	87.851	51.27408	1.2189	50.05509	4.9683	no trial
12	Pure distilled water,	1.000000							+.5467

SENSIBLE PROPERTIES OBSERVED BY MR. SILLIMAN PREVIOUS TO ANALYSIS.

No. 1—Mystic River.

Nearly colorless—quite transparent—few flocs of matter floating about—no odor, but decided brackish saline taste—like some river waters.

No. 2—Croton River.

Less transparent than No. 1—slight sapidity—taste of marsh or swamp water—no odor—leaves no unpleasant taste in the mouth.

No. 3—Spot Pond Outlet.

Contains a few small white flocs—inodorous—sapid, but less so than No. 2.

No. 4—Schuylkill River.

Not so transparent as the foregoing—slight milkiness, from white earthy particles—inodorous, nearly or quite insipid—perfectly sweet, and like distilled water to the taste.

No. 5. Long Pond Outlet.

Transparent—more colored than the foregoing, but by no means *highly* colored—entirely inodorous and tasteless—resembling No. 4 in this respect—perfectly soft and pleasant to drink.

No. 6—Charles River, Watertown.

Strikingly like No. 5 in transparency—half a shade darker in color—inodorous, but slightly sapid—leaving a somewhat harsh or rough impression on the palate, very different from No. 4 or No. 5.

No. 7—Charles River, South Natick.

Color brownish yellow—no sensible turbidness—quite transparent—has a *fresh* odor—nearly insipid—leaves a pleasant taste in the mouth.

No. 8—Spot Pond, 11 Feet Depth.

Tint of color greenish yellow—transparency diminished by innumerable filaments uniformly diffused through it, which rise to the top in a green scum on standing quiet for some time—odor unpleasant, like faint animal decomposition, by no means agreeable—taste rather sweet and marshy.

No. 9—Long Pond, 62 Feet Depth.

Decidedly turbid—color reddish brown—hardly darker than No. 7, when freed from suspended matter by filtration—inodorous—slightly marshy in taste, like No. 8.

No. 10—Spot Pond, 26 Feet Depth.

As dark colored as many swamp waters—deep reddish brown—has more color than all the others united—slightly odorous and rather disagreeable—nearly insipid.

No. 11—Well, No. 20 Beacon Street.

Colorless—free from smell—has a well marked saline taste—a little nauseous on holding a quantity in the mouth.

QUANTITY OF WATER TO BE SUPPLIED.

On the question of the supply of water which ought to be afforded to a given population, much diversity of opinion appears to have prevailed. This ought not, perhaps, to be matter of surprise. It could hardly be expected that those who have never been accustomed to the luxury of a full supply for all the purposes of life, public as well as private, in a large city;—who have been habituated to content themselves with so much water as was taken in beverage, or used for culinary and other strictly *domestic* purposes, and to suffer, with what equanimity they could, the privation supposed to be necessarily incident to a City life, in a sultry season;—who have never contemplated a copious supply of water as promotive of the public welfare, and conducive to general morality, temperance and decency,—should entertain the same views, on this subject, as persons oppositely situated in all these particulars.

Pecuniary interests may possibly, in some cases, have given a bias to opinions on this important point. Those who view the introduction of water to a city as something out of which individual profit may be realized, would naturally ask the same questions, only, as they would propose to themselves if about to bring into the place a supply of any other commodity or species of merchandise; viz,—"*How much will the market bear, without being overstocked and the price depressed? How much can be sold? What quantity is the least daily supply that will content a purchaser, and yield the greatest profit to the vender?*" Influenced by considerations of this nature, the views of persons must naturally limit extremely their estimate of the quantity of water demanded for the cleanliness, comfort and general well-being of a dense population.

The same limitation of views is also likely to belong to those who have looked to foreign cities as standards on which to form their estimates, and seeing, there, every thing made a matter of individual enterprise and interest, have never contemplated a large community taking upon itself, in its collective capacity, the duty and responsibility of supplying to all its members, this material, so essential to comfortable existence.

Other standards than the bare measure that will supply *necessities*, and more comprehensive views than those which are confined to the sale of water as *merchandise*, ought, in our judgment, to influence the decision of this question. We do not, therefore, deem it expedient to limit the calculation of a supply designed, we presume, to be used without constraint or stint, for all domestic purposes, with liberal allowances for all public objects, and with power to furnish numerous branches of industry with the means of prosecuting their respective labors—to such an amount of water as would probably be introduced by parties having no interest in its use and application beyond the amount of *rents* which it would yield.

We beg leave to recur to some experience, relative to this subject, which has been obtained in other countries, and then to present that which has been afforded in our own.

In a work, entitled "*a Treatise on the Police and Crimes of the Metropolis*," published at London in 1829, we find, among other interesting topics connected with the character and conduct of the lower classes of the population of that city,—the subject of a supply of water treated at considerable length.

The author very truly and pertinently remarks of water, that "next to the atmospheric fluid, it is the most essential of natural substances, and to the inhabitants of a large city more especially, it is the first requisite both for cleanliness and health."

The writer gives a tabular view of the supplies which the eight distinct companies, then in existence, furnished daily to their customers, by which it appeared that in the more wealthy part of the metropolis—in London and Westminster, lying north of the Thames—the average daily supply to a house was 196 (imperial) gallons, equal to 235 wine gallons. This supply, of course, included all which was taken for public purposes,—the extinction of fires,—fountains,—washing of of streets, and similar objects.

The supply on the south, or Surrey side was but 93 imperial, ot 111 wine gallons, daily, to each house. On that side, the houses inhabited by the poorer classes, did not receive 1-5 as much as some of those on the opposite side, though an equal number of persons were probably crowded into the small houses there, as inhabited the larger mansions on the north side of the river. The watering of the streets, too, was very imperfectly performed. In cases of fire on the Surrey side, frequent and serious complaints were made of the damage that ensued from the delay and difficulty of obtaining water. "The services, too,"—it is stated—"are less frequent, (some houses being only supplied once a week) on the south side of the river."

These short extracts may serve to show that those parts of London which were furnished with an average of only 93 gallons per day, to each water taker, were very far from being adequately supplied.

The elements of the supply furnished by the different London companies at the time here referred to (1829-30) are seen in the following

TABLE.

	Services.	Average per day, imperial gallons.	Gallons, (imperial) annually.	Average per house. imp. galls. per day.	Average per house, wine galls. per day.	
1. New River,	67,000	13,000,000	4,056,000,000	182	218	*
2. East London,	42,000	6,000,000	1,872,000,000	143	171	
3. West Middlesex,	15,000	2,250,000	702,000,000	150	180	
4. Chelsea,	12,400	1,760,000	549,120,000	142	170	
5. Grand Junction,	7,700	2,800,000	873,600,000	363	435	
6. Lambeth,	16,000	1,244,000	388,128,000	77	92	†
7. South London,	10,000	1,000,000	312,000,000	100	120	
8. Southwark,	7,000	720,000	224,540,000	102	120	
				157	188.2	

Since the period to which the work just cited relates, some of the companies, even those on the north side of the Thames, appear to have largely increased their supply of water. The East London Company, which then gave 6,000,000 gallons per day, has, according to the letter of Mr. Wicksteed, of April 16th, 1845, already referred to—now augmented its supply to 7,896,535 gallons. It no doubt affords, at present, a larger supply than before, to each renter.

From the report of the Royal Commissioners of Great Britain, for inquiring into the state of large towns and populous districts, it appears that with the exception of the City of London and its precincts, few of the towns in that country, are supplied with water in such a manner, as to furnish it to all the inhabitants within their dwellings, under high pres-

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* These five Companies supply London and Westminster.

† These three Companies supply that part of the metropolis which lies on the South or "Surrey" side of the Thames.

sure and without the intervention of human labor to bring it within their reach. Only in *six* instances could the arrangements be considered *good;* in *thirteen* they appear *indifferent;* and in *thirty-one*, so deficient as to be pronounced *bad.* The Commissioners say—" the important advantages afforded by a constant supply of pure water, kept on night and day, and superseding the necessity for the use and expense of water butts and tanks, are stated in the evidence of several eminent engineers, connected with the water works in various places."

They further add, that "from the cities of Philadelphia and New York, we have received information of much interest and importance, in answer to the inquiries addressed by us, showing the successful operation of a system of a constant and ample supply of water adopted in those cities."

"Mr. Ashton of Hyde, and Mr. Smith of Preston, owners of tenements occupied by the laboring classes, state their experience of the advantage in household and personal cleanliness, in health, and direct saving of money, derived from the improvements effected by the extension of the supplies of water, into the houses of their tenants."

The testimony of Mr. Thom, engineer of the Shaw's water works, before the same Commissioners, bears not only on the quantity of water supplied, but also on the agency by which it is furnished. He says, "I am clearly of opinion that no town ought to be considered as fully supplied with water, unless the pipes are kept constantly full, and arrangements made by which a powerful force of water can be taken from them at a moment's notice, to extinguish fire in any part of the town, high or low. But this, I fear, will be found impracticable without the assistance of government and the legislature. So powerful are many of the water companies, so strong the chain of interest which binds them together, and so large is the capital sunk in the present imperfect works, which the improved system would supersede, that I despair of ever seeing certain towns properly supplied with wholesome water, unless the powerful aid of government and the legislature is brought to bear down the selfish opposition. And it were clearly better even to impose a local tax to compensate such companies, than that the health and comfort of the community should continue longer to suffer, by withholding from them the first necessary of life—a copious supply of pure water."

In addition to the foregoing foreign authorities, which point to the evils experienced from deficient supplies, and signficantly indicate that the examples there found, are not all to be relied on, in seeking a ratio of full supply for a given population, we will cite an extract from a letter addressed by Frederick Graff, Esq. of Philadelphia, to a member of this Board, under date of August 29th, 1845. He writes as follows. "I will endeavor to give you the quantity of water used, this year, for six months from January to July. Last year we supplied 28,082 tenants. Deducting the three districts now declined, who last year were supplied,—7,683 tenants—leaves now to be supplied 20,399 tenants, without adding new water tenants for the year, the number of which I could not procure. Consequently I have assumed the 20,399 tenants as data. From January to April, 3 months, in 1845, we pumped, per 24 hours, 3,085,451 gallons. From April to July, 3 months, we pumped, per 24 hours, 4,555,943 gallons—being, on the average for 6 months, a supply to each tenant, per 24 hours, of 187 gallons. In one week of hot, dry weather, from August 6th to 13th, this year, we pumped 5,116,674 gallons, supplied to 20,399 tenants—which is for each nearly 251 gallons. This quantity should be calculated for at Boston, to cover with certainty all incidents that may occur, either by means of dry weather, great consumptions for fires, or carelessness in the distribution; 28,082 tenants, the first six months in 1844, used, per average, 162 gallons each tenant; 20,399 tenants, the first six months in 1845, used 187 gallons each—which makes an excess of water used this year by each tenant, per day, over the consumption of last year, of 25 gallons. The excess, I think, has been produced by the dry weather and excessive heat, together with more frequent bathing, and washing the streets."

Reducing the above stated quantities to the equivalent numbers of *wine* gallons, we find that the pumping at the Fairmount Water works, was as follows;—

In the 1st 3 months of the present year,	3,764,250 gallons per day
" " 2d 3 " " " '	5,558,250 " " "
From Aug. 6th to Aug. 13th, " "	6,242,342 " " "

Also, that the average supply, for the first 6 months in 1844, was 197 gallons per tenant; that in the first 6 months of 1845, it was 228 gallons; and in the week from the 6th to the 13th of August, it was 306 *wine* gallons.

This last quantity is that which Mr. Graff recommends to be calculated for each water tenant at Boston, to cover all the contingencies which he enumerates. As a basis of our computation for the supply of Boston, we think it safer to rely on American than on foreign experience. With this view we introduce a tabular statement of the actual supplies furnished within the last 10 years to the City of Philadelphia—a city which we do not consider to have enjoyed any superabundance of water, and which, so far from diminishing its demand, has within the present year called for the erection of a second set of works, that already supply an average of more than 3,000,000 gallons per day. It is not intended to assert that so great a demand beyond the capability of the pre-existing works to afford, has grown up within a single year; but the statement of Mr. Graff, of the excess of 25 gallons supplied to each tenant this year, beyond the requisitions of the last, together with the quantity taken from the new works in the northern districts—is, we conceive, conclusive evidence that no part, either of city or districts, has heretofore possessed an excessive supply.

As above shown, the old water works during the months of April, May and June, pumped per day, 5,558,250 gallons. The new works in the northern districts, as seen in the table above (page 39,) supposing 10 per cent. deducted for leakage of valves, afforded per day 3,085,185 gallons. Giving a total for the city and districts, of 8,643,435 gallons.

Tabular statement, showing the amount of Water pumped, number of water renters supplied, and the average number of gallons afforded to each, for 9 years, at the Fairmount Works, Philadelphia.

Year.	Average number of wine gallons supplied per day.	Number of tenants receiving the water.	Number of wine gallons to each tenant per day.	Remarks.
1835	4,267,130	18,704	228	In the reports of the Watering Committee of Philadelphia, the quantity of water supplied is reckoned in beer gallons, of 282 cubic inches, which, in this table, we have reduced to wine gallons. At the end of 1844, 7,683 tenants withdrew, and were supplied by the new steam works.
1837	4,697,730	20,462	229	
1839	4,853,650	22,636	214	
1840	4,922,210	23,482	209	
1841	5,423,630	24,828	218	
1842	5,242,950	25,816	203	
1843	5,395,330	26,549	203	
1844	6,503,210	28,082	231	
1845	4,661,250	20,399	228	
			218 mean	

In the above series of years, 1836 and 1838 are omitted only because we could not readily procure copies of the reports of those years. It is not doubted that they would conform very nearly to the general average here obtained.

If we admit that each water tenant represents a family of 7⅓ persons, the average daily supply to each individual would be 29.7 gallons.

To ascertain what number of persons among the population of Philadelphia and its environs was represented by *one water renter*, we have had recourse to the following comparisons.

The census of Philadelphia *city proper* (exclusive of the "*districts*") in 1840, showed a population of 93,665. Of this population, in the year commencing January 1st, 1841, the number of water renters was 12,752—showing 7⅓ persons to be represented by a "*water renter*," as above.

In the district of Northern Liberties, with a population of 34,474, the number of renters was 3,124—showing that 11 persons were here represented by a water renter.

In the district of Spring Garden, the population was 27,849, and the water renters were 2,789—proving that a water renter represented a little less than 10 persons.

In Kensington, the population being 22,314 and the water renters but 521—only 1 water renter for 43 persons then took the water.

Southwark had a population of 27,548, and the water renters were 1,823—showing 15.1 persons to have been represented by 1 water renter.

In Moyamensing, the population was 14,573, and the water renters 522—the number of persons represented by a water renter was 27.9.

These numbers show evidently that no one of the *districts* was so well supplied with water as the *City proper*. This is easily understood when we refer to the fact that, at the time of which we speak, the charge for water to citizens of the districts was 50 per cent. more than to those of the City proper, which owned the works. To this we may add that in the City proper, there were, at the period now referred to (1841) 63½ miles of iron pipes for a dense population of 93,665; while in all the *districts* together, there were but 50 miles of pipes laid, for a much more sparse population of 116,971—a number 24.8 per cent. greater than the City proper then contained.

In the two following years the number of water renters increased :—

In the City, - - - -	from 12,752	to	13,439 =	5.3 per cent.
" Northern Liberties, -	" 3,124	"	3,345 =	6.6 " "
" Spring Garden, - -	" 2,789	"	3,174 =	13.8 " "
" Kensington, - -	" 521	"	618 =	18.4 " "
" Southwark, - - -	" 1,823	"	2,061 =	13.0 " "
" Moyamensing, - -	" 522	"	612 =	17.2 " "

Hence it appears that, at the time of our comparison, the *districts* did not enjoy a competent supply, and that the number of renters was rapidly increasing. The extension which, in the two following years, was given to the pipe in those dis-districts, is a proof of this gradual enlargement of service. It amounted to 3 1-8 miles. The districts now referred to are, moreover, to a considerable extent, inhabited by a population little able, or disposed, to bear the tax formerly imposed for water beyond what was paid for it in the City proper. They are now relieved from that excess.

If we admit that the inhabitants of the City proper were not over supplied in 1841, with 218 gallons to 7 1-3 persons, then the inhabitants of the districts were either inadequately supplied, or some were not supplied at all. In fact, if we suppose that all the water renters in the *districts* represented families of 7 1-3 persons each, they would amount to 64,394 —to which adding the 3,300 families supplied from public pumps, we have a total of 183,244 inhabitants, then supplied in the City and districts of Philadelphia. As the total population of the City and districts at the time was 210,636 there remained 27,392 persons to be supplied. 218 gallons divided among 7 1-3 persons, gives, as above 29.7—say 30 gallons each, per day. We have seen above that the well supplied districts of London and Westminster, North of the Thames, received 235 wine gallons to each house, which at 7 persons, gives each individual 32 gallons per day.

We believe there is no essential difference between the habits of the citizens of Boston and those of Philadelphia, which should lead to a different *estimate* of supply of water to the one City, from what is *actually used* in the other. We shall therefore base our estimates on 30 gallons to each person per day, as an average daily supply for the year.

From the above cited statements of Mr. Graff, it appears that, in some periods of extraordinary drought and heat, the average of 218 gallons per tenant is liable to rise to 306 gallons— or 40 per cent. above the mean rate of supply, giving 41.7 gallons* to each individual. This great consumption is doubtless to be mainly attributed to the causes mentioned by Mr. Graff, especially to the very general and frequent use of baths in private houses, more than 3000 of which, in the city and districts, are furnished with bathing rooms.

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* In all our computations the *wine gallon* is adopted because it is the one in general use in Boston—has been employed by all former Commissioners, and is the only standard liquid measure of the United States.

GENERAL SUMMARY.

This commission has not been able to give any very specific attention to the question of damages for land and water rights. The former cannot be very important on either line, at least the amount cannot be material to a decision on the question as to which should be adopted. In regard to the latter, it was our intention to examine the facilities for constructing a compensation reservoir to supply Concord River with an equivalent, for the water diverted from Long Pond. But time did not permit. It appears, however, from the general formation of the country, and from information obtained under the authority of your committee, that there are facilities abundantly adequate for this object. This method of compensating for the diversion of a running stream, was successfully adopted in the works for supplying the City of Edinburgh with water. The stream there taken to supply the City, was occupied to drive mills below the point where the water was taken, and compensation was made by furnishing an equal quantity by means of a reservoir. This is no doubt the true method, for compensating Concord River, for the case under consideration, and it is believed to be of easy accomplishment.

The conditional contracts which we are informed by your committee, have been made by the agent employed for this purpose, provide ample sites, for such compensation reservoirs as will be necessary.

From the information above stated and the knowledge we have of the land that will be required, a general estimate has been made, that will not, probably, be very far from the actual cost of the several routes.

In relation to Long Pond.

The proposition of Mr. Knight for the outlet mill power,	$100,000
The proposition for sites suitable and regarded sufficient for compensation reservoirs,	20,000
Estimated cost of works to improve said reservoirs,	10,000
Land required for aqueduct and reservoir,	35,000
Total for Long Pond plan,	$165,000

In relation to Charles River.

Water right by proposition of the owner at Watertown,	50,000
Land required for aqueduct and reservoir,	20,000
Total for Charles River plan,	$70,000

In relation to Spot Pond.

Proposition of the owner,	60,000
Land required for aqueduct and reservoir,	15,000
Total for Spot Pond plan,	$75,000

It would not be necessary to take the whole stream, either at Long Pond or Charles River, in the first instance, or for some years to come. But the City should have the entire controul of the stream, from which it derives its supply. Any partner or joint ownership will entail controversies and embarrassments, that will more or less interfere with the enjoyment of the City portion of the right, and which should not be permitted in a matter of so much importance as the proposed work. We therefore recommend the extinction of the whole water right at the outlet of Long Pond, or of Charles River, whichever shall be adopted.

Adding the preceding estimate for land and water rights, the total cost of delivering the water of the several sources on Beacon Hill will be as follows:—

Spot Pond.	*Estimate.*	*Quantity.*
General estimate of work,	$561,897	of water in wine gallons per day,
Estimated cost of land and water rights,	75,000	
Total,	$636,897	1,500,000
Charles River.		
* General estimate,	$1,923,536	
Estimated cost of land and water rights,	70,000	
Total,	$1,993,536	7,500,000
Long Pond.		
General estimate,	$1,681,599	
Estimated cost of land and water rights,	165,000	
Total,	$1,846,599	7,500,000

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* The cost of introducing 7½ million gallons per day, from Charles River (exclusive of land and water damages,) is—

To Corey's Hill,	$1,280,890
Corey's Hill Reservoir,	53,244
From Corey's Hill Reservoir to the City,	589,402
Total to Beacon Hill,	$1,923,536

The cost of introducing 7½ millions, per day, from Long Pond, (exclusive of same damages,) is—

To Corey's Hill,	$1,038,953
Corey's Hill Reservoir,	53,244
From Corey's Hill Reservoir to the City,	589,402
Total to Beacon Hill,	$1,681,599

Reducing the above to their respective rates of cost for 1,000,000 of gallons per day, we find the result as follows:—

		Gallons.		
Cost from Spot Pond	per	1,000,000	is	$424,598
" " Long Pond	"	"	"	246,213
" " Charles River		"	"	265,805

From the above it appears that to provide for a supply of 7,500,000 gallons per day—each million gallons obtained from Spot Pond* will cost $158,793 more than the same quantity will cost from Charles River, and $178,385 more than the same quantity will cost from Long Pond.

If the several works be arranged so as to procure 5,000,000 gallons per day the estimates will stand as follows:—

For Charles River.

To Corey's Hill, -	$1,009,218	
Corey's Hill Reservoir,	53,244	
Corey's Hill to Beacon Hill, - - -	514,402	
Land and water rights,	70,000	
Total for 5,000,000 gallons,		$1,646,864

For Long Pond.

To Corey's Hill, - -	1,038,953	
Corey's Hill Reservoir,	53,244	
Corey's Hill to Beacon Hill, - - -	514,402	
Land and water rights,	165,000	
Total for 5,000,000 gallons,		$1,771,599

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* It will be remembered that Spot Pond can furnish but 1,500,000 gallons per day.

Reducing the above to their respective rates of cost for 1,000,000 gallons per day the result is as follows:—

Cost from Spot Pond per 1,000,000 gallons is $424,598
" " Charles River, " " " 329,373
" " Long Pond, " " " 354,320

From the above it appears, that to provide a daily supply of 5,000,000 gallons, each million obtained at the rate of cost from Spot Pond will cost $95,225 more than at the rate from Charles River, and $70,278 more than at the rate from Long Pond.

And the supply from Long Pond will cost for 1,000,000 gallons per day $24,947 more than the same quantity from Charles River.

The total cost, by the estimate for 5,000,000 gallons daily from Long Pond, will be $124,735 more than from Charles River. The total cost of obtaining a daily supply of 7,500,000 gallons from Charles River will be $146,973 more than to obtain the same quantity from Long Pond.

It has been the intention to make the estimates sufficient to fully meet the expenses. It is proper however to state, that the respective cases do not admit of computations with the same degree of certainty. In relation to Spot Pond there is, in the crossing of Mystic and Charles Rivers, a degree of uncertainty, involving contingencies that may reach beyond what is provided for.

In relation to Charles River the estimate is based on the experience of London, and with the view of obtaining engines and machinery at the same cost for which they are obtained there. As remarked in the discussion of this subject, there is some doubt whether this could be effected. If a less expensive engine be adopted, the extra cost of the fuel it would require, would more than balance the saving in the engines; as appears from the statement in relation to the engines and pumps recently erected at Philadelphia.

The estimate for Long Pond is more free from uncertainty. The work is of a kind well understood, and has been so fully examined that it is believed great confidence may be reposed in the sufficiency of the estimate to meet the expenses.

Aside from the expense of a general supervision, the repairs of Long Pond Aqueduct will be something more than those of Charles River Aqueduct, if we except from the latter, extraordinary repairs. Ordinary repairs and maintenance of the engines and machinery, are provided for in the estimates. But in view of the contingencies extraordinary of maintaining in operation so much heavy machinery for pumping, and the possible interruption that might be caused by the foreign relations of the country, in obtaining a supply of fuel, and in consideration of the fact that the cost of coal is now affected by a severe competition between two of the principal channels for bringing it to market,—which cannot be expected to be of permanent continuance,—it is believed that in a series of years, the Long Pond Aqueduct, although of greater length, will not cost more for maintenance than the works from Charles River. The Aqueduct, if well constructed, will require very little expense to maintain it. The small amount of raised work, its freedom from violent streams, and the general good quality of the soil in which it may be laid, fully warrant this conclusion.

By the report of the Commissioners in 1844, the distribution in the City, including City reservoirs, was estimated to cost, including a contingent allowance, $740,044. It is believed that this is a fair estimate for the present population (115,000.) It will increase as the population increases, but not in the same ratio.

Probably the ratio of cost for extending distribution will not exceed 70 per cent. on the increase of population, or $4,50 for each inhabitant.

In forming plans for supplying a large town with water, the question of the probable increase of its population necessarily arises. On this point we are informed that the increase for the last 5 years has been at the rate of 35 per cent. This is a rapid increase, and must no doubt be mainly attributed to the influence of Railways that have recently been put in operation, greatly extending the facilities of intercourse between this City and the interior. How long this influence may continue to increase the growth of the City, can only be conjectured.

It is well known that the City of New York rapidly increased in population after the opening of the Erie Canal, in 1825. In the 20 years that have since elapsed, that city has increased 120 per cent. If Boston shall have the same ratio of increase, it will contain in 20 years a population of 253,000. If the extensive system of Railways, now in progress and in contemplation, be completed, there does not seem to be good ground to doubt, that this, or a near approximation to it, may be realized in the future growth of the City. This is a matter on which the citizens may form a more correct judgment than we can.

We have however made an estimate, that after much consideration, we believe will not be found in excess; certainly not, unless the growth of the City be in future much less than it has been, for the last five years.

The present population is, - - -	115,000
Estimated increase in the next 5 years, at 25 per cent., - - - - -	28,750
The population at the end of 5 years, -	143,750

Estimated increase in the 2nd 5 years, at 20 per cent.,	28,750
Population at the end of 10 years,	172,500
Estimated increase in the 3d series of 5 years, at 12 per cent.,	20,700
Population 15 years from this time,	193,200
Estimated increase for the 4th series of 5 years, at 10 per cent.,	19,320
Population at the end of 20 years,	212,520

The increase in the City of New York for the last 5 years in the series of 20 years above given, from 1825 to 1845, was 18.9 per cent.

Unless the growth of the City of Boston be very materially less than it has been for the last 5 years, the population at the end of 10 years from the time the work can be completed and put in operation, may be safely estimated at 175,000; and at the end of 20 years 220,000.

At the rate of supply shown in a preceding part of this report to be necessary, (30 gallons per day) there will be required on the above basis of population at the end of 10 years from the completion of the work, 5,250,000 gallons of water per day. In view of the estimates and considerations before given, we are of the opinion that this quantity may be obtained from Long Pond, at about the same expense as from Charles River. To make provision for the estimated population at the end of 20 years, on the same basis, will require a daily supply of 6,600,000 gallons of water. For this quantity, Long Pond is the source from which it may be obtained at less expense than from any other.

Spot Pond, as has been shown, is much more expensive for the water it will furnish, than either Charles River or Long Pond, and in our judgment is so totally inadequate to the quantity wanted, that it cannot be of any value, unless it be taken as auxiliary to some other source. If no one source could be obtained at a reasonable expense, it would, no doubt, be expedient to combine two. But with one source that may be had on quite as favorable terms, it is better to go at once to it for a supply. If Mystic Pond be added to Spot Pond, to make together 5,250,000 gallons per day, the cost will be more than it would be to obtain this quantity from either Charles River, or Long Pond. It may be further observed, that Long Pond, as will appear from the soundings on the chart annexed, has much more depth of water than Spot Pond, and as provided for in the estimates is much superior as a reservoir. If therefore a supply is to be provided for only 10 years to come, there is no object in going to Spot Pond for any portion of it.

It has been stated that the estimate for distribution for the present population is $740,044, and that this expense will increase as population increases, at the general rate of $4.50 per individual. This for an additional population of 60,000, will be $270,000. Total for distribution for a population of 175,000 = $1,010,045. The expense of distribution will be the same, whichever source be taken; and it will be in the first instance near 50 per cent. of the cost of introducing 5,250,000 gallons daily, from either Charles River or Long Pond; and when the population shall require 5,250,000 gallons, the distribution will exceed 50 per cent. of the cost of introducing 7,500,000 gallons daily from Long Pond. It therefore appears that the difference of one or two hundred thousand dollars in bringing the water to the city, bears only a small comparative proportion, to the total cost of introducing and distributing through the city, the quantity that will be wanted at the end of ten years from the time of its introduction.

On the supposition that a supply of only 5,000,000 gallons, per day, should be provided for in the works, we are decidedly of the opinion that Long Pond is the source from which it should be obtained. It can be obtained from this source for about the same cost that it can from Charles River. The works for its introduction, when executed, will be more permanent, of more simple and convenient management, and much less liable to get out of order, than the works for introducing water from either of the other sources.

This source furnishes water of the greatest purity and in ample abundance. It has no causes in action liable to deteriorate its properties. It is a source which its magnitude and depth, as well as the extent of country drained, and the volume of water discharged, all entitle to the designation of a *Lake*.

By reference to the researches made by Mr. Silliman it appears that the water taken from the point of proposed outlet (No. 5, of the series) was " entirely inodorous and tasteless;"—"perfectly *soft*, and pleasant to drink." Tested by soap, it " was hardly rendered in any degree turbid—not more than common rain water." Among the waters of this vicinity, it was the only one which produced no diminution in the weight of lead, for several weeks subjected to its action. In testing for iron and arranging all the samples in the order of freedom from that impurity, Long Pond water stands highest in rank. In stating the results of his analysis of No. 5 (the water just referred to) Mr. Silliman remarks that " this water stands by itself in containing less solid matter to the gallon than any other; and in the feebleness of its reactions with nearly all the chemical tests."

For any larger quantity than 5,000,000 gallons per day, the superiority of this source increases.

It remains to be discussed, whether the work to introduce water from Long Pond, should be constructed on the plan provided in the general estimate for supplying 7,500,000 gallons per day. The difference in the cost, over that of providing for 5,000,000 gallons per day, is only $75,000. This difference occurs wholly in the pipes to convey the water from Corey's Hill reservoir to the City. From the estimate of population, there will be required at the end of 20 years from the time the works may be completed, 6,600,000 gallons per day. The iron mains above mentioned, will not be sufficient for this quantity, and a third main (as observed in discussing this subject in a previous part of this report) will be required, unless provision be made in the first instance, for the supply of 7,500,000 gallons. If our estimate of the prospective growth of the City is well founded, it will be the best economy to provide, in the first instance, for this quantity; and the supply may then be considered as provided for a population of 250,000. As above stated, this question does not affect the Aqueduct above, nor Corey's Hill reservoir; neither of which can with propriety be diminished for the smaller quantity. No material interference with the general plan, will, therefore, be effected by adopting the smaller mains between Corey's Hill reservoir and the City; and if the estimated growth of the City should not be realised, it may prove the best economy.

Although this point may very well be left for future consideration, still we are of the opinion that it will be sound economy to make provision in the first instance for the full supply; and then the work may be considered as completed and adequate, for some thirty years to come. When it becomes necessary to make further provision, the pipes that occur in the line of Long Pond Aqueduct, for crossing Charles River and Brighton Valleys, as well as the mains from Corey's Hill, must be enlarged to meet the full capacity of the Aqueduct. It has been shown, that Long Pond is capable of furnishing a daily supply of 10,000,000 gallons, and the masonry conduit is capable of delivering that quantity. In order to obtain this supply, it is only necessary to increase the size of the iron pipes above mentioned, which, it has been shown, can be done if the plan be adopted in the first instance, for an additional cost of $65,000.

In conclusion, it may be remarked that in view of the whole subject, we have no hesitation in stating, as our opinion, that Long Pond is decidedly the most appropriate source to which the City can resort, to obtain an adequate supply of pure and wholesome water for the present and future use of its inhabitants; and that it will not be a larger provision, in view of the probable growth of the City, than is desirable in works of this character and magnitude.*

* The cost of introducing and distributing water including land damages and water rights from each of the different sources, is as follows :—

Works for introducing 1½ millions of gallons per day from Spot Pond, - - - - - - - - -	$636,897
Cost of Distribution, - - - - - - -	740,044
Total, - - - - - -	$1,376,941
Works for introducing 5 millions of gallons per day from Charles River, - - - - - - - -	1,646,864
Cost of Distribution, - - - - - -	740,044
Total, - - - - - -	$2,386,908
Works for introducing 5 millions per day from Long Pond, -	1,771,599
Cost of Distribution, - - - - - -	740,044
Total, - - - - - -	$2,511,643
Works for introducing 7½ millions of gallons per day from Charles River, - - - - - - - -	1,993,536
Cost of Distribution, - - - - - -	740,044
Total, - - - - - -	$2,733,580

The estimate for the works required to introduce 7,500,000 gallons of water per day, into the City from Long Pond as before stated, - - - -	$1,846,599
Do. for distribution as per report of Commissioners in 1844, - - -	740,044
Total cost, including distribution, -	$2,586,643
To lay down the pipes, as before stated, so as to make them equal to the full capacity of the Aqueduct, or sufficient to supply 10,000,000 gallons per day,	$65,000
Total for 10 millions of gallons per day,	$2,651,643

To this would be added the expense of providing for distribution, to meet the increase of population.

In presenting the estimates of the quantity of water, we have been desirous of avoiding any appearance of looking to an extravagant provision.

We are well aware that many persons will regard what we deem a suitable provision, as unnecessarily large. This view is not peculiar to this City, as might easily be shown from the history of other cities, where the proposition to introduce a liberal supply has been made. We may however remark, that we do not know of an instance where the largest provision has been made, and the advantages flowing from it fairly tested, in which it has failed to produce general conviction of its superior usefulness, and entire satisfaction that the extra cost of procuring an abundant over an inferior supply was a judicious expenditure. And we have therefore not the least doubt that if the City adopt the plan of providing 7,500,000 gallons per day, when the work is fairly brought into use, and its benefits developed, there will be far more surprise that any should have questioned its propriety, than that so large a supply was regarded necessary.

We should not have made any calculation for a greater supply than 7,500,000 gallons per day, had it not appeared that 10,000,000 gallons per day could be obtained from Long Pond at a comparatively small additional expense; and we certainly deem it a very important consideration, that this source will be at command when the growth of the City shall render it important to have this quantity; a contingency which we believe cannot be very remote.

The Surveys of the several lines proposed for Aqueducts—of Spot and Long Ponds, and the country that constitutes their drainage districts—also the computation of areas and the cubic contents of the several kinds of work required, have been made under the direction of John B. Jervis, by Henry Tracy, Civil Engineer, assisted by Samuel Holbrook, Esq.

The gaugings of water at Spot Pond, Long Pond and Charles River, and the observations on temperature, rain and evaporation at those stations, have been made under the immediate direction of W. R. Johnson, by Messrs. S. G. Putnam, Gustavus A. Hyde and I. W Ayer.

Respectfully submitted,

JOHN B. JERVIS,
WALTER R. JOHNSON.

APPENDIX A.

REPORT

ON THE

ANALYSIS OF THE WATERS,

BY B. SILLIMAN, JR.

To Walter R. Johnson, Esq.,

One of the Commissioners appointed to consider the subject of supplying the City of Boston with pure water.

Dear Sir,—On the 12th of September last, I received from your hands ten samples of water for chemical examination and analysis, and having completed my researches in the best manner in my power in the time allotted, now beg leave to make the following

REPORT.

The waters were handed to me by numbers only, without any designation of their localities, and I still remain ignorant of their sources. They were contained in glass bottles, holding about 2½ gallons each and fitted with well ground glass stoppers. I was informed that the bottles had been filled at the various points from which the water was taken, and that they had not been exposed to the action of the air since they had been collected. I will first give a general description of the waters as regards their *transparency*, *color*, *smell* and *taste*; then their behavior with the various chemical reagents employed to ascertain their contents;

and then their ultimate analysis, their action on lead, and some general observations.*

Water Number One.—[From Mystic Pond, about 60 rods above the outlet, taken from the surface, 100 to 150 feet from the shore where the depth was more than 10 feet, collected August 16th at 11.55 A. M.]

Appeared colorless, or nearly so, and quite transparent—on close observation a few flocs of matter were seen floating about—and on looking down vertically through the height of the bottle, some slight departure from perfect colorlessness was perceptible, especially if a sheet of white paper was placed under the bottle. A very trifling quantity of light brownish green sediment was observable in the bottom of the jar, collected into little pellets. No *odor* could be perceived from this water, but it had a saline, brackish taste, like some river waters, and these properties were made more decided by holding a portion of the water in the mouth for a little time.

Number Two.—[Croton River—Taken from the upper reservoir City of New York, near the S. E. corner and near the outlet leading to the distributing reservoir; collected August 25.]

Was a shade or two less transparent than No. 1, when viewed from above and over white paper—as before mentioned. On the bottom was seen a coat of fur of yellowish matter, as well as some pellets of light spongy sediment in the angles of the bottle. A sheet of paper as seen by transmitted light, when held behind Nos. 1 and 2, appeared decidedly darker through No. 2 than through No. 1. Several lively animalcules were seen skipping about in No. 2; none were seen in No. 1. It had a slight sapidity and reminded one of the taste of marsh or swamp water so commonly perceived in the waters of lakes. No *odor* was perceived, and no unpleasant taste was left in the mouth after retaining a portion of it for some time.

Number Three.—[Spot Pond—Taken at 2 P. M., July 17th, 150 to 200 foot from the proposed outlet of conduit, and from the surface,—over a depth of 13 feet.]

Transparent and one or two shades darker in color than No. 2. No animalcules visible, but after agitation a few small while flocs were seen floating in it. A fur, less in quantity and of a lighter color than in No. 2 covered the bottom of the vessel, and in its angles was a quantity of somewhat dense sediment partly suspended. This water was inodorous—sapid, but less so than No. 2. The color the same.

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* I feel bound to state that I have not seen the results obtained by other chemists who have, as I understand from you, analysed some of these waters, and am quite ignorant how far the results here given will compare with theirs.

Number Four.—[Schuylkill, Philadelphia—collected at 4½ P. M. Aug. 23d, 100 to 200 feet above the fore bay in the pool of Fairmount dam.]

Not so transparent as either of the foregoing. It had a slight milkiness, arising apparently from the suspension of white earthy particles. On comparison with No. 3 or 5, it was less colored than either, but less clear. The sediment on the bottom was greater than in either of the former specimens, and of a different quality—denser, darker colored and, not so easily distributed by agitation. No living animalcules were visible. Inodorous, and nearly or quite insipid, perfectly sweet, and like distilled water to the taste.

Number Five.—[Long Pond—collected July 19th, from the point of exit of proposed aqueduct, 150 to 200 feet from shore—Taken from the surface where the depth was 10 feet.]

Transparent and more colored than the foregoing, but by no means *highly* colored—quite free from floating particles—the bottom of the vessel nearly without furry matter adhering to it, and the sediment in the angles about equal to that in No. 2—decidedly less than in Nos. 3 and 4. No animalcules were seen by the naked eye. It was entirely inodorous and tasteless, resembling No. 4 in this respect—perfectly soft and pleasant to drink.

Number Six.—[Charles River—Watertown—collected July 29th, at 6 P. M. 150 to 200 feet above the lower dam, in the middle of the stream.]

Is strikingly like No. 5 in transparency but half a shade darker in color—the furry matter adhering to the bottom was redder and more in quantity, as well as that portion which had collected in the angle of the bottom and sides. No animalcules. Inodorous, but slightly sapid—leaving a somewhat harsh or rough impression on the palate, very different from that of No. 4 or 5.

Number Seven.—[Charles River—South Natick—collected July 22d, at 9 A. M. in the middle of the pool, and 200 feet above the dam.]

Is decidedly darker in color than any of the preceding, and at least three shades darker than the last—the color being brownish yellow. The sediment is not greater than in No.

6, although so much darker in color. No visible animacules and no sensible turbidness—quite transparent. It had a *fresh* odor. Nearly insipid, leaves a pleasant taste in the mouth, and is somewhat unlike the last.

Number Eight.—[Spot Pond—between the island and S. E. shore, at 9 and 13 feet depth from the surface—collected Sept. 3d and 6th.]

This sample presented the most marked differences from all the preceding specimens. It was not so highly colored as No. 7, but the tint of color was different, being greenish yellow, instead of brownish yellow. Its transparency is greatly diminished by the presence of innumerable filaments of a whitish green color, suspended and uniformly diffused in the water, looking like small fibres of linen. These filaments, after the water had remained quiet for some time, rose to the surface in a greenish scum and then the lower portions appeared much clearer—while numerous animalcules were seen darting nimbly in various directions through it. The sediment is but slight—about equal in quantity to that in Nos. 6 and 7. The difference in color is several shades. This water had an unpleasant odor, like that of a faint animal decomposition—by no means agreeable. In taste not so decided as Nos. 1, 2 or 6, but rather sweetish and marshy.

Number Nine.—[Long Pond—upper division, from a depth of 62 feet—collected Sept. 8th.]

Is a water which could not in any sense be called clear or transparent. It is decidedly turbid, of a reddish brown color, while the matter diffused through it is so finely divided as to present no visible points. A very slight coating, only, of furry matter was attached to the bottom of the jar, and the sediment collected in the angles was small and spongy. In color this water is hardly darker than No. 7, when freed from the suspended matter by filtration. Inodorous and slightly marshy in taste, like No 8.

Number Ten.—[Spot Pond—26 feet depth—same locality as No. 8—collected Aug. 26th.]

This extraordinary looking water is as dark colored as many swamp waters, of a deep reddish brown, resembling a solution of iron—and the very abundant sediment at the bottom of the bottle (one quarter of an inch in thickness) is of a still deeper brown. On comparing this water with any of the preceding, so strong a contrast in color is presented as to make it stand alone, since it has more color than all the others united. It is slightly odorous and rather disagreeable but nearly insipid, having less of a marshy taste than No. 9.

It will be seen from the foregoing descriptions that living animalcules were observed in several of the waters, and no doubt could exist in the minds of those acquainted with such subjects, that could the waters be seen when first taken from their various sources, these would be found in them all. But as many of these minute and delicate animals die as soon as they are confined, their absence in any of the above samples would prove nothing; but the bodies of those which do not suffer immediate decomposition might very naturally be looked for in the sediments. Since some false notions exist in the minds of those who have not considered such subjects particularly—as if the presence of animalcules in a water were an objection to its use for the common purposes of life, I take the liberty to quote the following paragraph from a letter written by Professor J. W. Bailey, in answer to one from the writer accompanying a sample of each of the waters, with a part of the sediments. He writes as follows:—

West Point, Sept. 30, 1845.

My Dear Sir:—I hasten to send you the results of my examination of the Boston waters, and although they are such as will not help you much in your examinations, I yet give them in some detail, that you may draw your own conclusions.

A portion of the sediment from each bottle, enough to cover a wafer, was placed between the glasses of Chevalier's compressor, and examined by the microscope directly after the bottles were first opened. The contents of each were as follows:

No. 1. A considerable quantity of yellowish brown amorphous matter, probably decomposed vegetable matter, mingled with fragments of straw and fern leaves. A few minute Naviculae, a Fragilaria, and Tabelaria trinodis, rather common.

No. 2. Some fragments of quartz, bits of leaves, and vegetable fibre. Transparent globules with four to nine green globules inside. Eunotia gibba and a few Baccillaria alive, Carapaces of Anuraea stipitata.

No. 3. Much decomposed organic matter as in No. 1, a few particles of sand. Fragments of Entomostraca, Gallionella distans, common. Anuraea stipitata, many specimens of Difflugia proteiformis, a few living Naviculae and minute monads.

No. 4. Organic matter as in No. 1 abundant, minute filaments encased in mucus, minute spheres also. Difflugia proteiformis, Cocconema cymbiforme, Navicula Sigma, Arthrodesmus quadricaudatus, Desmidium hexaceros, and some minute living gelatinous polygastrica.

No. 5. Organic matter as before. Gallionella distans, Desmidium hexaceros, Difflugia proteiformis, Closterium crenulatum. Fragments of Cyclops and Daphne and some living monads.

No. 6. Tabelaria trinodis, Arthrodesmus quadricaudatus, Eunotia monodon, Gallionella distans, Pinnularia viridis, Himantideum arcus, Cocconema cymbiforme, Surirella splendida, Actinophrys Sol, Euglena? alive and active,—Euastrum margaritiferum, some sand and organic matter.

No. 7. Much organic matter as in No. 1. Tabelaria trinodis, Pinularia viridis, Navicula Sigma, Gallionella aurichalcea, Surirella splendida, Synedra ulna, Navicula gracilis, Himantidium arcus, Arthrodesmus quadricaudatus, Cocconema cymbiforme, Euastrum magaritiferum, and several varieties of minute eggs. Spicules of Spongilla.

No. 8. Organic matter as in No. 1. Gallionella distans, Navicula gracilis, Fragilaria pectinalis, fragments of Cyclops, Pollen of Pine.

No. 9. Organic matter as in No. 1. Tabelaria trinodis, Gallionella aurichalcea, Gallionella distans, Surirella splendida, Synedra Ulna, Cocconema cymbiforme, Eunotia Westermanii, Navicula Suecica, Euglena? Anuraea stipitata.

No. 10. Large quantity of rusty looking deposit, containing some minute globules, threads of conferva and Oscillatoria, Gallionella aurichalcea, Tabelaria trinodis, Synedra Ulna, Spicules of Spongilla, living monads.

You will see by the above, that living soft and hard shelled Polygastric Infusoria are present in all these waters, and so far, the evidence is *in favor* of their salubrity, for if they were not present it would necessarily be in consequence of something injurious to animal life being present in the water. Some of the species found are such as inhabit the purest lakes and steams, and many of them would be instantly destroyed in putrescent waters; others are found in peat bogs and stagnant pools.

If you want to know what kind of looking creatures those are whose hard names are given above, you will find them in Ehrenberg's plates.

Believe me ever, yours truly,

J. W. BAILEY.

B. Silliman, Jr.

There are certain practical questions regarding waters which are to be used for economical purposes, which are of the greatest importance to be considered. Of these, perhaps the most important are—the *softness* of the water, or its adaptation to the purposes of washing where soap is to be used; the *nature and quantity of the solid contents left on evaporation*—a question of the greatest interest where the water is used for generating steam, either in stationary or locomotive steam boilers; and, intimately connected with this point, the *general adaptedness* of the water to *all* the domestic and other purposes of common life; and its *freedom* from any, or all those foreign bodies which can, in any way, be considered as deleterious to the health of the consumer.

The action of water on *metallic lead* is another question which must be allowed to be of great weight, since it is the almost universal custom to carry water into houses, from the iron pipes of supply, in pipes of lead—as well as to employ the same metal in wells where pumps are used. The poisonous effects of some of the soluble salts of lead are well known, and all plumbers know with what rapidity, in certain situations, leaden pipes are destroyed by a corrosive action of the water.

It will be seen that a set of comparative experiments has been made on these waters, in reference to this question, which is believed to have some value.

We will first speak of the *softness* of the various samples examined. The test employed to determine this point was an alcoholic solution of common soap, commonly known as tincture of soap. In *hard* waters this test, when added in proper quantity, produces an immediate cloudiness and a precipitate if the water is very hard. It should be remarked that lime and magnesia are the substances which produce the quality commonly known as *hardness* in waters. Common salt and various other matters may be present in waters, in considerable quantity, without producing a cloudiness in the soap test; but this test may be safely relied on by those who are unacquainted with chemistry, as giving a very sure indication of this property, of so much importance in the concerns of common life.

In water *No.* 1, the soap test produced an immediate and very thorough milkiness, showing it to be a decidedly *hard* water. Common writing could not be discerned in the least, when held behind the test glass, (a common wine glass.)

No. 2. Was rendered turbid in about half the degree that No. 1 was. Handwriting could be seen through it.

No. 3. But little turbidness appeared on adding the soap test to this water, and it must be considered nearly soft.

No. 4. Nearly similar to No. 3, but slightly more disturbed.

No. 5. Is hardly rendered in any degree turbid—not more than common rain water.

No. 6. Is identical in character with No. 3, and rather better than No. 4.

No. 7. The same as No. 3 and 6.

No. 8. The want of transparency natural to this water was a little increased by the soap test. It would fall between Nos. 7 and 5.

No. 9. Has the same degree of opalescence as Nos. 3 and 6—but some deduction must be made for the degree of turbidness of the water in its natural state.

No. 10. About the same as No. 3—but the high color of this water interferes with a proper judgment.

We may arrange these results in a numerical order which shall express the greatest excellence by the order of the numbers, beginning with the best and descending in regular order. We have then,

No. 5, 8, 6, 7, 9, 3, 4, 10, 2, 1. The real difference between Nos. 5, 6, 7, 8, and 9, is very small, and can be seen only by comparison. After the test glasses containing the above results had stood forty-eight hours, marked changes were observed in them. Some of the clear ones had become more turbid, and the following order was observed,

No. 9, 10, 6, 4, 8, 7, 5, 3, 2, 1.

The nature of the solid matters and their action on metallic lead, two points of inquiry above alluded to, will be considered further on.

The well known reagents gave evidence of the presence, in nearly all the waters, of chlorine—sulphuric acid—crenic and apocrenic acids—carbonic acid—phosphoric acid (in some, nitric acid)—lime—magnesia—alumina—silica—potash—soda—and rarely iron—and manganese. These substances, in their various forms of combination, were present in very minute quantity only, in several, requiring great care or peculiar management to render them sensible. But when we remember how powerful a solvent water is, it should not surprise us that it takes up such matters as it meets with in falling on the surface of the earth; and we should rather wonder that it is as pure as we generally find it, rather than that it contains a long catalogue of foreign substances.

Some remarks are required, to notice the peculiarities of the reaction of some of the waters with the various reagents employed.

Chlorine.—A portion of each water, acidulated by pure nitric acid, was tested with nitrate of silver.

No. 1 gave a prompt and abundant precipitate of chloride which, on exposure to light, grew rapidly dark, and at last black.

In all the others (Nos. 2, 3, 4, 5, 6, 7, 8, 9 and 10) the silver test gave scarce any visible cloudiness, from the production of chlorides.

It is a fact well known to chemists that nitrate of silver is a very sensitive test for the presence of organic matter in water, when exposed to sun-light, especially for certain acids with which it forms beautiful pink, violet and purple compounds. On setting the test glasses used in the above experiments in the sun-light, to facilitate this reaction, in a very few moments great changes became evident in all. No. 1 became deep violet purple. Nos. 2, 4, 5, 6, 7 assumed a delicate pinkish color, like solutions of cobalt—No. 2 being the most intense and the color diminishing in the order of the numbers. It will be remembered that scarcely any traces of chlorine were detected by this test in these numbers. The same effects were seen, to a greater or less extent, in all. On standing for twenty-four hours, the precipitate in No. 1 had fallen and left the water above clear and colorless, while the abundant mass of chlorides had become quite black from the action of the suns light. The glasses containing the other samples presented a most beautiful display of different shades of pink, purple, violet and maroon colors. In Nos. 5, 6, and 7, not the least precipitate had fallen; the water was of a rich wine color, while a film of metallic silver was seen floating on the surface, reduced by the deoxidising power of the organic matter in the water. Nos. 2 and 3 had some precipitate of a reddish brown adhering to the sides of the glass, and the water was of a high color. No. 4 had the precipitate suspended, rendering it turbid, and of a violet pink color. No. 8 resembled No. 2. No. 9 was like Nos. 5, 6, and 7, but had some precipitate adhering to the sides of the vessel. While No. 10—so highly colored by nature—had grown nearly colorless, and a bulky, rusty colored precipitate had fallen.

It was inferred from the above trials that, with the exception of No. 1, very little chlorine combined with alkaline bases would be discovered in these waters, on the analysis of the solid matters resulting from the slow evaporation of a large quantity; this inference, it will be seen, is borne out by the results obtained. However, it is also evident, that the presence of the organic matters materially hindered the action of the chlorine test, since not one of the waters was entirely free from this ingredient.

In waters containing a large quantity of chlorine in union with ammonia, it is quite unsafe to trust the solid matter, obtained from the evaporation of a known quantity, as truly representing all the solid contents of the water—since large losses are incurred by the volatilization of some of the compounds present. We are in a great measure freed from the liability to this kind of error in the analysis of these waters because of the general absence of salts of ammonia.

It has been remarked that, from the action of these waters with the silver test, it was inferred that organic acids were present. The next step of inquiry was to ascertain whether any of the waters were *alkaline or acid*, or whether they were all *neutral.* They might be acid, either from the presence of *free carbonic acid gas* in considerable quantity, or from the presence of some *free organic acid;* while it is obvious that an excess of *free alkaline salts* would give them an alkaline reaction.

A sensitive tincture of blue litmus was freshly prepared in alcohol, and five or six ounces of each water being placed in test glasses of uniform size, a few drops of the blue tincture were added to each—enough to impart a decided color. A similar portion of newly boiled and pure distilled water was also treated in the same way, as a standard of comparison. After sufficient time had elapsed—no change of color was seen in Nos. 1, 2, 3, or 4. Nos. 5 and 6 had become slightly reddened (*very* slightly). Nos. 7 and 8 unchanged. No. 9 was decidedly reddened—No. 10 still more so—and both became still redder on the addition of more of the test. It appeared therefore that there was a free acid of some sort in Nos. 5, 6, 9 and 10. None of the waters exhibited any alkaline reaction.

It now became interesting to determine the nature and comparative quantity of the organic acids which were present. **Berzelius**, in his well known examination of the waters of the Porla well in Sweden, first made known to us the existence of two peculiar organic acids which he detected in that water, and which had before been overlooked and confounded under the general name of "*extractive matter*," and various similar names. These acids he called the *crenic and apocrenic* (from the Greek κρηνη, *a fountain*). The latter is spontaneously formed from the former, and differs from it considerably in the proportion of its ingredients.* Crenic acid is easily altered in composition, and, in the presence of air and and a proper temperature, is rapidly transformed into apocrenic acid—growing brown in the operation and imparting this color to the water containing it. A striking example of this is seen in No. 10, which contains a large quantity of apocrenic acid. The salts of lead and copper both form insoluble compounds with these acids, but, as the basic acetate of lead also forms insoluble compounds with numerous other organic matters which may be present in water—it is best to employ the acetate of copper in testing for these acids. This test produces with crenic acid a greenish white precipitate which quickly subsides—while if apocrenic acid be present, it forms a brown coffee colored precipitate which is deeper in color in proportion, as the quantity of apocrenic acid is greater; the former is soluble in an excess of acetic acid and while the latter is insoluble, offering a ready means for their separation.

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* **Hermann** found crenic acid to contain, in 100 parts—carbon 40.24—hydrogen 7.69—nitrogen 7.50—oxygen 44 57; and apocrenic, carbon 62.57—hydrogen 4.80—nitrogen 15—oxygen 17.63. And the chemical formulas expressing their composition to be, respectively, C 16 H 16 NO 6 and C 14 H 14 O 3 N 3.

Neutral acetate of copper was added to each of these waters in the cold and without any concentration by boiling. No *immediate* precipitate was found except in No. 10. But after standing for twenty-four hours, there was a precipitate in all but No. 8, which appeared quite clear. Both *crenic and apocrenic acids* were thus detected in the waters—in some only the former, in others a mixture of both. Crenic acid was found most abundantly in Nos. 2, 4, 1 and 5—and in abundance according to the order of the numbers. No. 2 afforded a most copious greenish white precipitate of crenate of copper.

Apocrenic acid was seen most copiously in No. 10, which had quite a bulky, dark brown precipitate, while the water had lost entirely its natural brownish yellow color—having only a slight green from the excess of the reagent employed. Nos. 9, 7, 5 and 3, had each some of the same—very decided and abundant in Nos. 9 and 7—much less so in No. 5, and very little in No. 3. The determination of the precise quantity of these acids in the waters, was not undertaken as it was supposed the public interest did not require it.

The next head of inquiry, and one somewhat related to the last, was the presence or absence of *carbonic acid*. We may presume that there is no natural water—unless a very acid one (like some springs and rivers which contain free sulphuric acid) which is quite without this gas. All waters we know will absorb atmospheric air, and as this always contains a small quantity of carbonic acid gas, we should naturally be led to expect its presence in all waters. But there are other and more abundant sources of carbonic acid in waters than the small quantity contained in the air. The decomposition of vegetable matters contained in the various sources of water, and natural supplies of this gas from the earth, are the most obvious ways in which carbonic acid may be made to impregnate natural waters. Since it has been supposed that the presence of a considerable quantity of this gas in a water was one principal source of the corrosion of leaden pipes used for the conveyance of water, it seemed to me to be a question of some practical interest to determine, as nearly as could be, the actual amount of this gas in the several specimens in hand.

Amount of carbonic acid gas in the waters. The method used to determine this question was that recommended by BERZELIUS, which consists in conducting all the vapors and gases, given off during the boiling of a known quantity of the water to be examined, by means of a glass tube into a close vessel containing a quantity of ammoniacal lime water. The details of the apparatus need not be here given. The carbonic acid gas combines under these circumstances with the ammoniacal lime water, forming a carbonate of lime; not a bubble escapes; and the carbonate of lime resulting being collected and weighed, we have by an easy calculation the amount of carbonic acid in weight, which is easily turned into cubic inches of gas Although this method is subject to some objections in cases where *extreme* accuracy is required, it is believed that the results obtained by it are close approximations to truth, and it is certainly more accurate than some other methods which are recommended on high authority. The examination was made on one fourth of a gallon, United States standard measure, about 58 cubic inches, and the results calculated for the standard gallon of 231 cubic inches, weighing at 60° Fahrenheit, 58,364.6509 grains Troy.*

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* All the quantities of water used in these experiments were determined *by measure* in the United States standard gallon of brass, adjusted to hold, with its accurately fitted cover of ground glass, at the temperature of 39°.83' Fahr. (the point of maximum density in water)—58,372.1754 American standard Troy grains of pure distilled water. The temperature of the waters, when measured in these experiments, was as nearly as possible 59°.5 Fahr.=15° C. Now, 10,000,000 parts of pure water expand, between the temperatures of 39°.83 Fahr. (viz. the temperature at which these measures are adjusted) and 59°.5 Fahr. (that at which the measuring of these waters was actually made) 10,007.357 parts; while a brass vessel holding 10,000,000 parts by bulk at the former temperature, will hold 10,006,067 at the latter; the difference of these, viz. 1290 parts, is the portion of the whole bulk of water which will be excluded. Now $\frac{1290}{10,007,357}\times 58,372.1754=7.5245$ grains, which is the weight of the excluded portion, leaving the gallon of distilled water at 15° C=59°.5 Fahr. weighing 58,364.6509 grains. Any one who has seen these beautiful instruments cannot doubt that when we operate with quantities so large as were used in my experiments, far greater accuracy, (and immeasurably greater economy of time) can be obtained by using the method of measuring in preference to weighing. Our balances of precision are usually overloaded with about 1500 to 2000 grains—while by the use of pure distilled water to rinse out the last adhering traces of the water from the measure, no appreciable error can be introduced into the analysis. In case of the determination of *carbonic acid*, care was used that the distilled water employed to wash out the vessel, should be freed from carbonic acid by recent boiling. By the kindness of the Collector of Customs at this port, I was allowed access to the set of United States standards which were employed in these researches. The weighings throughout were made

The weights of carbonate of lime obtained in a quarter of a gallon by the process for carbonic acid, gave the following results in *cubic inches* for one gallon of each water.

No. of Water.	1	2	3	4	5	6	7	8	9	10
Volume per gallon of carbonic acid.	10.313	17.418	9.516	3.879	10.719	5.058	0.464	5.163	4.549	a traec.

None of the other gaseous constituents of the waters were estimated. A salt of lead (basic acetate) showed, from the yellowish white precipitate it formed in them all, the entire absence of sulphuretted hydrogen gas which, if present, even in a very minute quantity, would of course have made a dark colored precipitate of sulphuret of lead. *Carbonic acid* ought to be estimated *at the source* from which the water is obtained, as its quantity is very apt to vary on removal, and a difference in the tightness of the stoppers and various other causes may cause discrepancies in the results obtained. In No. 10, which contained so large a quantity of organic acids, no carbonic acid could be found.

The same sample of water from which the carbonic acid had been expelled, was employed to estimate the quantity of sulphuric acid. They were all rendered acid by hydro-chloric acid, and *while boiling*, the sulphuric acid was thrown down in combination with baryta by the addition of a sufficient quantity of chloride of barium.

In most, the quantity of sulphuric acid appeared exceedingly small—as judged of by the feeble amount of sulphate of baryta precipitated. So small a quantity, indeed, is present in most of them, that when taken in the cold and unacidulated, no reaction can be perceived in any but No. 1. But by the method described, we obtained the following quantities, calculated for one standard gallon, in Troy grains.

No. of Water.	1	2	3	4	5	6	7	8	9	10
Sul. acid in one gallon.	.1058	.0055	.00824	.0245	.0044	.010	.00137	.011	.0037	.00246

In evaporating a portion of each to a small bulk (about

French *grammes* and decimals of a *gramme*, which were applied with precision to the first decimal of a *millegramme*. But as these most convenient weights are not usually employed in this country, I have converted them into grains and decimals—taking the French *gramme* to be 15.444 grains. From the data here given, it is easy for any person to calculate the relation of the results obtained to a gallon, to 1000 parts by weight

1-10th) it was seen that in most of the waters a precipitate took place of matter no longer soluble; this precipitate was specially abundant in Nos. 1 and 2. It was white and granular. More particular notice will be taken of it in the account presently to be given of the determination of the solid contents of each water.

From the water thus condensed by evaporation, and filtered to free it from the suspended granular matter, *magnesia* was thrown down by ammoniacal phosphate of soda, the lime having been also previously removed by oxalate of ammonia. This earth (magnesia) was seen in considerable quantity in No. 1—also in No. 2 abundantly, but less than No. 1—No. 4 but little—Nos. 3, and 5 to 10 inclusive, in slight quantity—but not absent from any.

Iron. The test preferred to ascertain the presence of this body was the tincture of gall nuts. About two ounces of each in test glasses were mixed with a few drops of tincture of galls. But little effect was observable at first, but on standing twenty-four hours, the reaction was very well marked. Arranged in the order of the brown color produced by this test with iron, the series will be 10, 9, 1, 6, 8, 2, 4, 3, 7, 5. Only in No. 10 is the reaction *very* decided—this test makes a deep brown almost black color with the galls. No. 9 not half so much, while in No. 1 it is slight and declines regularly to No. 5, which is hardly discolored at all: Nos. 3 and 4 were rendered also quite opalescent.

Ammonia was looked for without success by the usual precautions in employing caustic soda as a test, but had the vapor from the evaporation of a large quantity of the water been conducted through muriatic acid, it is quite probable that some traces of this agent would have been discovered.

Lime.—This was most abundant in No. 4, as indicated by the oxalate of ammonia. Nos. 2 and 1 stood next—Nos. 8, 7, 9 and 10 next—while Nos. 3, 5, and 6 were nearly exempt.

With these statements we may safely proceed to the question of the actual amount of solid matter in each, as determined by the gradual evaporation of a standard gallon. A carefully measured standard gallon of each sample was taken. The evaporation of Nos. 1, 2 and 3 was performed in open basins of porcelain with covers of paper, as recommended by BERZELIUS; but as several objections exist against the use of open porcelain basins, chiefly from the free access of dust and foreign bodies and the difficulty of removing the film which sometimes obstinately adheres to the sides of the vessel—occasioning loss—I found it best, on many accounts, to employ flasks of green glass holding about a quart each, and placed on a range of iron plates where the temperature was that of gentle ebullition, and the atmosphere about the sides of the vessel so hot as to prevent the condensation of the steam and consequently the return of a portion already evaporated to the liquid state in the vessel. As the volume of the water diminishes, the contents of one of the vessels can be safely turned into another, without loss, until the four are reduced to one. When each water was in its turn reduced to about 4 or 5 ounces of bulk, it was removed to a small capsule of known weight, and carried to complete dryness over a water bath at a heat of 212° Fahr. After this it was carefully cooled over sulphuric acid on an air pump, and weighed before it began to acquire weight by attracting hygrometric moisture. If the weight was not found constant, it was again warmed, cooled as before, and then weighed again. During the evaporation, numerous changes took place in the appearance of the several waters, which it is interesting to note.

No. 1 became somewhat discolored by boiling and threw down a light brownish matter which increased in quantity as the evaporation continued; when carried to dryness it presented a pretty abundant crystalline crust of whitish salts, and had very little appearance of organic matter on the sides of the capsule—but on the bottom some slight traces. On standing in the air it vegetated on the edges of the capsule, and when ignited to burn off organic matter, it showed not the least deflagration from the presence of nitrates.

No. 2 also grew rusty on boiling and threw down a somewhat granular and abundant coffee colored precipitate. Carried to dryness, it gave a brownish yellow, earthy, quite uncrystaline residuum with a deep brown areola of organic matter on the edges of the capsule. The earthy matters collected at the bottom of the capsule cracked on drying, like an aluminous residue. On igniting this residuum, there was a most brilliant deflagration from the presence of nitric acid, which was sufficient to completely burn off, in an instant, all the dark colored organic matter—and a perfectly white earthy powder was left.

No. 3 was very similar to the last, but changed less by the ebullition. The quantity of solid matter was much less than the last, and it contained less organic matter, which burnt off quietly without deflagration.

No. 4 became quite milky when reduced to half its volume from the suspension of a white precipitate which fell on cooling; when reduced to a pint, it became *very* milky and yellowish (carbonate of lime and magnesia). When quite dry the result was very different from either of the foregoing, being a cream colored, small granular, earthy powder—with a slight areola of organic matter; and on ignition a well marked deflagration took place from the presence of nitrates.

No. 5 became decidedly ferruginous as it evaporated, but the quantity of solid matter was very small—of a light ash gray, with a yellowish brown organic film on the sides of the crucible; there was a small deflagration from the presence of nitrates.

No. 6, as the evaporation proceeded, became filled with numerous floating scales, of a bright lustre and transparent, which were probably sulphate of lime; a pellicle or crust formed on the surface of the capsule at the close of the evaporation, while a slight deflagration was observed on ignition.

No. 7 when condensed to one fourth of its bulk, became very ferruginous—as much so as No. 5—and showed the same bright scales as were seen in No. 6; and as the evaporation proceeded it looked less ferruginous. When dried up it left a glairy, cream-colored crust—not in the least crystalline—with a small areola of organic matter; on ignition it emitted strongly the smell of burnt hair or horn—with no deflagration.

No. 8 appeared at first to grow brighter by boiling and looked much clearer than in the jar; but when about a quarter part was gone, it began to grow thick from the suspension, apparently, of organic matter, looking farinaceous. As the process went on, this appearance diminished and the brilliant scales noticed in No. 6 appeared. When dried, it left an abundant, fine granular, yellowish gray residue with an iridescent film such as is seen on the surface of water containing iron.

No. 9 grew very red and rusty from the suspension of a finely divided, reddish powder; this powder collected into balls as the water condensed and bright scales, as in No. 6, appeared. The solid matter condensed very much as the evaporation proceeded but was still abundant. The dry residue of evaporation was bulky, earthy, cracked on drying, and had a highly iridescent film over the surface.

No. 10 became deep wine red color on boiling, having a pulpy, ferugenous precipitate in which were seen the same scaly crystals as in No. 6. These appearances altered materially as the evaporation proceeded, and, on drying over the water-bath, became reddish gray, light colored, and cracked like alumina or hydrous peroxide of iron. It had also on ignition a slight deflagration from the presence of nitrates.

The amount of solid matter to the standard gallon of each water, as determined by this series of evaporations, is expressed by the following table.

Number of Water.	1	2	3	4	5	6	7	8	9	10
Solid matter in 100,000 parts by weight.	50.752	18.714	3.647	9.417	3.168	5.702	4.332	5.308	5.770	10.598
Grains of solid in 1 gallon.	39.710	10.93	2.13	5.50	1.85	3.40	2.53	3.10	3.37	6.19
Volatile at redness.	6.02	4.28	0.86	1.24	0.63	0.85	0.86	1.00	1.16	1.58
Leaving solid matter.	33.68	6.66	1.25	4.26	1.22	2.55	1.668	2.10	2.21	4.62
Of which there was soluble in hot water.	32.45	2.49	0.69	0.57	0.53	0.93	0.758	0.79	0.48	0.73
Insoluble.	1.24	4.47	0.56	3.69	0.69	1.62	0.910	1.31	1.73	3.89

The matter volatile at redness was not only all organic matters present, but also nitric acid, water chemically combined with the salts, and possibly the chlorine combined with the magnesia, as well as any salts of ammonia—evidently leaving too much latitude for loss to afford us the most accurate results on the analysis of the non-volatile residue. But my instructions made the determination of the *actual solid matters* a point of considerable importance, and the results which follow show that in those cases, like Nos. 1 and 3 and others, where the amount of volatile matter was small and no nitrates were present, and consequently but a small amount of alkaline bases unengaged by electro-negative affinities—the loss on the analysis was not more than was reasonably to be expected. But in cases like No. 2, where a great amount of crenic and nitric acids were present in combination with soda or other bases—and that base was estimated by the loss and not directly—it is quite evident to those acquainted with chemical analysis that the results would show a corresponding loss. After ignition and treatment with water, the solution of each was found to have a strongly marked *alkaline* reaction—confirming the remarks just made that soda was combined with some volatile acid which, on ignition, left the alkaline bases free, or converted them into carbonates. A careful analysis was performed on each sample, both on the soluble and insoluble ingredients; and this double work—on quantities so small as those found in the majority of cases (only about half a grain in the case of 3, 4, 5 and 9, and not much more in the others—see table) —requiring a multiplicity of operations—and attended with the addition of so many hundred times the quantity of the various reagents employed—presented in itself difficulties enough, aside from the presence of matters which under the circumstances could be determined only from the loss. The results will speak for themselves. I will only say that in reconstructing the supposed condition of the various ingredients found, as they *probably* existed in the waters, the rule adopted has been to follow as nearly as possible the order of affinities of the various elements concerned, and to obey also as nearly as we were able, that partition of acids among bases which undoubtedly obtains in nature. It is indeed the opinion of Berzelius, Rose and other eminent chemists, that the effort to restore with accuracy the precise condition of the elementary combinations concerned in a mineral water, is altogether futile—except in cases of extraordinary simplicity; and that it is the better way to state only the quantities of the various ingredients found, and leave it for the ingenuity of the student to reconstruct them as he finds most convenient. In my analysis of the waters of the Dead Sea I have followed this principle. [American Journal of Science—Vol. 48, page 10,] and had almost determined to adopt it here. But on more reflection, considering the somewhat popular nature of this report, I have determined to present the results in the more usual form of chemical analysis—as being more likely to meet the public expectation.

No. 1 gave us the following results.

Chloride of sodium (common salt)	27.9111
Chloride of potassium,	.1590
Chloride of calcium,	.1544
Sulphate of magnesia,	1.9768
Sulphate of alumina,	.4478
Phosphate alumina and trace of iron,	.2810
Carbonate of lime,	.1698
Carbonate of magnesia,	.9894
Sulphate of lime,	.1219
Silica,	.5559
	32.7671
Actual amount after ignition,	33.6833
Loss,	.0162
Carbonic acid in 1 gallon, in cubic inches,	10.313

The principal constituent of this water it seems is common salt, united however to an uncommon number of other substances in small quantity. The presence of *phosphoric acid* in water has generally been overlooked, because unsuspected. It has escaped under the general title of alumina and iron, with which it is thrown down on addition of caustic ammonia. If this precipitate is entirely soluble in acetic acid, no phosphates are present; if however a portion is left undissolved after long digestion with acetic acid, it should be collected and weighed, and then examined for phosphoric acid.*

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* To determine beyond question the existence of phosphoric acid, the phosphate of alumina was fused (that of No. 2) with one part of silica and six parts of pure carbonate of soda, in a platinum crucible for half an hour—the fused

It is certainly interesting to observe that a compound indispensable to the full developement of the human frame should be so widely diffused as to be present, in minute quantity in almost all natural waters. We are less surprised at this fact now than we should have been a few years ago, since we now know that phosphoric acid is found in granite, mica slate, various lime stones of all formations, as well as in many simple minerals where it had before been overlooked; and I have detected its presence, in connection with *fluorine*, in most recent corals and coral limestone—and Dr. Jackson informs me that in his analysis of sea water for the Exploring Expedition, he also detected phosphoric acid. The same fact was independently proved by Mr. Schweitzer, in his analysis of deep sea water from the British Channel. It will be seen also, that silica is an almost constant element in these waters, being present of course in their natural state in its soluble modification.

No. 2. This was one of those waters which contained a large quantity of crenic acid and nitric acid, and of course we had an excess of carbonate of soda corresponding to these acids. It gave an analysis as follows:

Chloride of sodium and a trace of potassium, -	.167
Sulphate of soda, - - - - - -	.153
Chloride of calcium, - - - - - -	.372
Chloride of aluminium, - - - - -	.166
Phosphate of alumina, - - - - -	.832
Carbonate of lime, - - - - - -	2.131
Carbonate of magnesia, - - - - -	.662
Sulphate of lime, - - - - - -	.235
Silica colored by manganese, - - - -	.077
*Carbonate of soda, equivalent to nitrates and crenates of ditto, and loss, - - - - -	1.865
Total solid in 1 gallon, after ignition, - - -	6.66
Carbonic acid in ditto in cubic inches, - -	17.817

The peculiarities in the composition of this water are the large quantity of carbonic acid holding up lime (which it will

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masses treated with water and filtered—carbonate of ammonia was added, and, by digestion and evaporation, the silicic acid removed. The filtrate, rendered quite neutral, was treated with nitrate of silver, which promptly threw down the characteristic precipitate of *yellow tribasic phosphate of silver*—blackening by light, and readily soluble in dilute nitric acid. No better proof can be asked. This is the process which Berzelius recommends for separating phosphoric acid from alumina.

* The crenic acid of No. 2 was separately estimated and found to be equal to 1.1734 grains to the gallon.

be remembered fell on boiling,) the large relative proportion of phosphate of alumina, and the crenic and nitric acids.

No. 3. This water contained less solid matter to the gallon than any other—save No. 5—and lost very little by ignition; nor did it possess crenic acid. Consequently it presents an analysis very nearly exact in quantity, as follows:

Chloride of sodium,	0.3969
Sulphate of soda,	0.2276
Alumina, iron, and phosphates of ditto,	0.1081
Carbonate of lime,	0.3722
Carbonate of magnesia,	0.1420
	1.2468
Actual amount found by evaporation,	1.2500
Loss on analysis,	0.0032
Carbonic acid gas in 1 gallon, in cubic inches,	9.516

No. 4.—This water differed materially from the foregoing in the amounts of carbonates of lime and magnesia, as well as in organic matters and nitric acid. It gave as follows.

Chloride of sodium,	.1470
Chloride of magnesium,	.0094
Sulphate of magnesia,	.0570
Carbonate of lime,	1.8720
Carbonate of magnesia,	.3510
Silica,	.0800
Carbonate of soda, from decomposed Crenates and Nitrates, and loss on analysis,	1.6436
	4.2600

On treating the solid residue of this water with hydrochloric acid a very brisk effervescence took place. It contained, it will be remembered 3.879 cubic inches of carbonic acid gas to the gallon.

No. 5.—This water stands by itself in containing less solid matter to the gallon than any other, and in the feebleness of its reactions with nearly all the tests—although the analysis shows that it contains nearly all the ingredients found in any other of the ten, but in very small quantity. Having an abundance of this water, we frequently drank small quantities of it during the investigations, and became quite partial to it. Its analysis gave the following results.

Chloride of sodium,	.0323
Chloride of potassium,	.0380
Chloride of calcium,	.0308

Chloride of magnesium,	.0764
Sulphate of magnesia,	.1020
Alumina,	.0800
Carbonate of lime,	.2380
Carbonate of magnesia,	.0630
Silica,	.0300
Carbonate of soda, equivalent to Crenate and Nitrate of ditto, and loss,	.5295
	1.2200
Carbonic acid in 1 gallon, in cubic inches,	10.719

No. 6 closely resembles No. 5 in the proportion and number of its constituents, which are as follows.

Chloride of sodium,	.1984
Sulphate of soda,	.0830
Sulphate of potassia, ,	.0310
Sulphate of magnesia,	.1350
Phosphate of alumina and free alumina,	.0830
Carbonate of lime.	.4970
Carbonate of magnesia,	.1300
Sulphate of lime with silica,	.6810
Carbonate of soda, equivalent to Crenate and Nitrate of ditto, and loss,	.7116
	2.5500
Carbonic acid to the gallon, in cubic inches,	5.058

No. 7, on analysis of its solid constituents, gave the following results.

Chloride of sodium,	.1547
Sulphate of soda,	.3816
Chloride of calcium,	.0420
Sulphate of lime and silica,	.2624
Phosphate of alumnia,	.0973
Carbonate of lime,	.1610
Carbonate of magnesia,	.0399
Carbonate of soda, equivalent to Crenate and Nitrate of ditto, and loss,	.5291
	1.6680
Carbonic acid in 1 gallon, in cubic inches,	0.464

No. 8 gave the following results.

Chloride of sodium,	.1553
Sulphate of soda,	.1510

Chloride of calcium,	.0044
Sulphate of magnesia,	.1290
Sulphate of lime and and silica,	.4940
Phosphate of alumina,	.0740
Carbonate of lime,	.0490
Carbonate of magnesia,	.1030
Carbonate of soda, and loss,	.9403
	2.1000
Carbonic acid to the gallon, cubic inches,	5.163

No. 9 gave the following results.

Chloride of sodium,	.2540
Sulphate of soda,	.0843
Sulphate of alumina,	.0146
Sulphate of lime and silica,	.5700
Phosphate of alumina,	.1700
Carbonate of magnesia,	.2560
Carbonate of lime,	.3860
Carbonate of soda, equivalent to Crenate and Nitrate of ditto, by loss,	.4757
	2.2100
Carbonic acid gas in 1 gallon, cubic inches,	4.549

This water also contained traces of iron which were too small to estimate; it was associated with phosphoric acid and alumina.

No. 10.—This very peculiar looking water gave the following results—and from the large quantity of iron it is easy to understand its high color, as well as from the abundance of apocrenic acid and organic matters.

Chloride of sodium,	.2230
Chloride of magnesium,	.0144
Sulphate of magnesia,	.0570
Sulphate of lime with silica,	2.0700
Basic phosphate of iron, and phosphate of lime,	1.3600
Carbonate of lime,	.3410
Carbonate of magnesia,	.2730
Alumina and phosphate of ditto,	traces
Carbonate of soda, equivalent to Crenates and Nitrates of ditto, and loss,	.2816
	4.6200

This water contained no measurable quantity of carbonic acid, but it may be safely asserted that at its source it does contain a portion of this gas, holding up iron as proto-carbonate of iron ; numerous scales of dark brown color floating about among the sediment confirm this statement. A large quantity of this sediment was dried off at 212° Fahr. over a steam bath in a platinum vessel, and ignited to expel the organic matter ; it burnt up almost completely, leaving only a little oxide of iron, and during the combustion emitted a strong odor like burning hair. It is also highly probable that the carbonate of lime and magnesia above noticed were held in solution by organic acids.

REMARKS.

On comparing the foregoing results with one another, and with analyses of other waters, we must admit that, if Nos. 1, 2, and 10 be excepted, they are all remarkably free from foreign matters, and that what they do contain, cannot—with the above exceptions—be much objected to. Indeed, Nos. 3 and 5 are almost good enough for any chemical purpose whatever. A water which will dissolve nitrate of silver without cloudiness, and will produce no precipitate with a salt of baryta, must be allowed on all hands to be *very pure*, although not absolutely so.

It is interesting in this connection to compare the results here given with those obtained from the analysis of other waters. This I am enabled to do through the kindness of DR. JAMES R. CHILTON of New York, who at my request, has sent me the following analyses of the *Croton* water, made by himself.

FROM THE CROTON RIVER.

Chloride of Calcium, Chloride of Magnesium,	.86
Carbonate of lime,	1.42
Carbonate of magnesia,	.70
Vegetable matters, &c.	.34
Grains in 1 gallon,	3.32

FROM THE HYDRANT.

Chloride of calcium, Chloride of magnesium,	.90
Carbonate of lime,	1.52
Carbonate of magnesia,	.84
Sulphate of lime,	.44
Vegetable matter, &c., with a trace of iron,	.46
Grains in 1 gallon,	4.16

Dr. Chilton remarks, "that these analyses were made a short time after the introduction of the water into the city. The difference in the two may be owing to the passage, in one case, of the water through thirty miles of cemented way. It is probable that at present there is not so much difference." He says, furthermore, that he has "formerly analysed the water from some of the old city pumps, and found it to contain, pretty uniformly, chlorides of calcium, magnesium and sodium, sulphates and carbonates of lime and magnesia, with iron and organic matter. The total residuum from the evaporation of a quart was in some 80 grains, others 44 and 32, and in one 20 grains."

Specific gravities of these waters. A series of experiments was performed in order to compare the density of the several specimens with distilled water. The weighings were made in a glass bottle with a perforated stopper, and holding a known quantity of pure water of 60° Fahr. Every care was used to have the weighings exact, and a correction for temperature was applied and the results were repeated. Still three of the waters presented the singular anomaly of being lighter than pure water. The presence of a large quantity of gaseous matter might account for this. The results are given below.*

Number of Water	1	2	3	4	5
Specific gravity,	1.000541	1.000060	1.0000894	1.000016	1.000118
Number of Water	6	7	8	9	10
Specific gravity,	0.999842	1.000062	0.999924	1.000090	0.999967

Action of the waters on lead. It now only remains for us to consider the result of the experiments conducted with a view to ascertain the action of these waters on metallic lead. Soon after they were received I set on foot this inquiry, in order to have as much time as possible to give the results maturity. To imitate as closely as we were able the condition of a leaden pipe full of water, a series of well stopped bottles, holding about a pint each, was prepared and numbered, and filled quite full of the several waters. A slip of lead, recently passed through the rolling mill and quite bright and clean was prepared, about half an inch wide and ten inches in length, and was placed in each bottle. The weight of each slip of lead was noted carefully before the experiment, and all the bottles (each containing its slip of bright lead) were tightly stopped and placed in a dark closet. The only condition of lead in water pipes running full bore which was not met by this arrangement was in the fact that, as leaden pipes are soldered together and to the pumps or brass cocks, and as the solder and brass fixtures are more highly electro-negative than lead—chemical action is more likely to take place on it than if not thus situated. It would therefore have been well had there been an independent series of comparative experiments instituted to determine this point (by imitating the exact electrical condition of the lead) but the time allotted to the research was too limited to allow of a repitition for this purpose.

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* Besides carbonic acid, other gases, particularly nitrogen and oxygen, (not in the same proportion as in common air) are always present in waters and may account for the lightness of some of the waters in the table.

A bottle of pure distilled water was at the same time placed aside with lead, under the same conditions, for the sake of comparison. After about five weeks the bottles were opened and examined. The most visible and apparently the greatest action had taken place in No. 1; the slip of lead in this water was tarnished and in spots much corroded, particularly where it had touched the bottle, and the water was milky from the suspension of minute crystalline flakes. The lead sparkled from the adhesion of small white crystals, and its edges had a cauliflower or fungus growth of yellowish semi-transparent matter. This action had increased steadily from the first day and was quite evident within 24 hours from the commencement of the experiment.

No. 2. The lead in this water looks as bright and fresh as the day it went in, and the water itself is not in the least turbid.

No. 3. The lead discolored in streaks, having a few puce colored spots of a fungous growth, like organic matter; some of this brownish matter, loosened from the lead, floated about like filaments of fibre.

No. 4. Quite bright and not much acted on.

No. 5. Much as No. 3, with like brownish spots. Water clear and no action apparently since the first few days.

No. 6. Very slightly acted on—much like Nos. 3 and 5.

No. 7. Slight, like Nos. 5 and 6—some brown matter floating.

No. 8. A considerable number of light yellowish white cauliflower concretions, on the edges of the lead, spongy and light—-while numerous particles of like appearance were floating in the liquid.

No. 9. The lead not much acted on; the edges covered with brown spots of fungus growth—but the matter which renders this water turbid in its natural state, was all precipitated—leaving it quite clear.

No. 10. The lead apparently unattacked and bright, but the brown color of the water had entirely disappeared and a precipitate like hydrous peroxide of iron occupied the bottom of the bottle, as it would seem, owing to a combination of the organic matter of the water with the lead.

In the following table are given the weights of lead before the experiment and after, and the loss as well as the quantities of water in each experiment.

Number of water.	1	2	3	4	5	6
Weight before trial.	200.664	185.328	198.625	206.193	198.486	216.521
Weight after trial.	200.077	185.328	198.533	205.691	198.533	215.475
Diff + or —	—0.587	000.000	—.093	—.502	+.046	—.046
*Quantity of water.	.215	.211	.212	.200	.211	.229
Number of water.	7	8	9	10	Pure Water.	
Weight before trial.	202.502	203.675	196.587	194.286	149.39	
Weight after trial.	202.440	203.626	196.479	194.069	143.923	
Diff + or —	—.062	—.049	—.108	—.216	—5.467	
*Quantity of water.	.219	.214	.225	.209	.233	

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* The quantity of water was determined in a French half *litre* of glass, carefully graduated into 250 equal parts, of which the above are parts. The *litre* is a little more than one quart.

After removing the solid matters from Nos. 1, 9 and 10 by filtration, hydro-sulphuret of ammonia was added to each bottle which was attended with an immediate discoloration in all. In No. 2 it was very slight indeed. Nos. 1, 10 and 9 were also but little discolored, proving that the lead in these waters had formed insoluble compounds and that the water was in reality, but little contaminated after removing the solid matter by filtration. Nos. 3, 5, 6, 7 and 8 were each more intense in color under the action of the sulphuretted hydrogen in the order of the numbers—No. 8 was quite black.

The pure water had acted on the lead more than any other. This is in accordance with a fact well known to chemists, that pure water is a much more powerful solvent of lead than water containing saline matters. We see also that the water which contains the most carbonic acid (No. 2) and the most but one of solid matter, had no effect whatever on the lead.

These facts certainly appear anomalous, and lead to the conclusion that we are yet without the means of establishing any general rule by which we may judge whether any given water will act on lead; and that actual experiment in every case is required before the question can be decided. The crystalline compound of lead seen in No. 1, was mainly carbonate of lead. This is one of the worst forms in which this metal can enter the human system, for although insoluble in water and tasteless, as soon as it enters the stomach the free acids, always there present, dissolve it and enable it to exert its deleterious influence.

It has been asserted on high authority (from experiments performed on some of the lower animals) that the carbonate and acetate of lead (i. e. *white lead* and *sugar of lead*) are the only salts of lead which are capable of producing any deleterious influence on life; while by the same authority we are informed that the chloride and nitrate of lead are nearly or quite inert as regards any poisonous influence.

It is quite interesting to observe that in Nos. 9 and 10, the organic matter had formed almost insoluble compounds with the lead—these waters presenting very little evidence, on addition of the sulphureted hydrogen, of the presence of that metal.

Practical inference from the foregoing results. Considering the deadly nature of lead poison, and the fact that so many natural waters dissolve this metal, it is certainly the course of safety to avoid, as far as possible, the use of lead pipes for conveying water which is to be used for drinking. The best substitute is found in a pipe well coated with *pure* *tin* on the interior—such pipes being quite safe and in every way to be preferred.*

Appendix to the foregoing Report.

[Water No. 11. From a well on the premises of James K. Mills, Esq., No. 20 Beacon street, Boston; taken Oct. 13.]

After nearly all the foregoing results were obtained, I received from you an additional water for examination, marked "*Aqua* 11." There was less than one standard gallon—a quantity too small to enable me to present the most satisfactory results; but the character of this water was so decided, and the quantity of foreign matter which it contained so considerable, that very little difficulty was experienced in determining its leading constituents.

It was colorless in the quantity observed, had some light brownish sediment floating about on agitating the bottle, was free from smell, and had a well marked saline taste which was a little nauseous, on holding a quantity for some time in the mouth—reminding me of the old pump water of New York before the days of the Croton.

Chemical reaction. Decidedly *acid* reddening litmus powerfully; nitrate of silver produced a copious precipitate of chlorides, blackening quickly on exposure to light from the presence of organic matters. The unconcentrated water gave a decided precipitate of sulphate of baryta on adding the nitrate of baryta—showing the presence of a notable quantity of sulphuric acid.

On boiling, carbonic acid gas was liberated and a granular white precipitate of carbonates was deposited. Nitric acid was detected by the usual method. Bromine and iodine were searched for in the precipitate by chloride of silver but were not found. Phosphoric acid was largely present in combination with alumina, as shown by the method already described in the first part of this report. Silicic acid was also present and crenic acid in notable quantity. Lime, alumina, a trace of iron, and magnesia, were all detected by their appropriate tests.

This water has a specific gravity of 1.001126—which will be seen to be much higher than any of the others, indicating of course a larger proportion of solid matter.

The quantity of carbonic acid was determined by a different process† from the foregoing, which proved it to contain 35.04 cubic inches to the gallon.

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* My particular acknowledgments are due to my friend and pupil, Mr. Thomas S. Hunt, for his efficient assistance throughout these investigations.

† The process alluded to consisted in adding to a known quantity of the water, caustic ammonia and chloride of barium—and air being carefully excluded the mixture was boiled; the precipitate which fell (consisting of all the sul-

The total amount of solid matter was determined by the very slow evaporation of one fourth of a gallon, standard measure, in glass; when reduced to about two ounces it was transferred to a platinum vessel and carried to dryness over a steam bath. An abundant white granular powder adhering to the vessel fell during evaporation. The total amount of solid matter, as determined by this method, when dried carefully at a moderate heat and cooled over sulphuric acid in a vacuum, gave for the United States standard gallon—51.27408 grains.

This solid residue had a white rather grayish appearance, with but little crystalline matter. It was gently ignited in the same platinum vessel in which the evaporation had been completed and this operation was repeated until after cooling over sulphuric acid, a constant weight was obtained. The loss of organic and other volatile matter by this process was 1.2189 grains, which deducted from the total above, leaves us of anhydrous solid matter 50.05509 grains.

A different method was employed in the analysis of this water from that described in the former part of this report.

One standard quarter gallon of the water was boiled with the previous addition of a certain quantity of pure anhydrous carbonate of soda which threw down, during the progress of the ebullition, all the earths and other bases present except the soda, converting them of course into carbonates. Then, by the well known methods of analysis, the various ingredients were separately determined. I give subjoined the *actual* quantities obtained for one gallon of the water, without attempting to reconstruct the order of arrangement which we may suppose they had in nature. We have

Chlorine, - - - - - - -	11.8084
Sulphuric acid, - - - - - -	4.9683
Lime, - - - - - - -	10,5853
Magnesia, - - - - - - -	4.3922
Alumina and oxide of iron, - - -	.9884
Phosphate of alumina, - - - -	3.8857
Silica, - - - - - - - -	6.1158
Carbonate of soda, equivalent of Nitric and crenic acids and loss } - - -	7.3209
	50,0550

Volume of carbonic acid in one gallon, 35.04 cubic inches.

phuric acid of the water united to barium and also all the carbonic acid as carbonate of baryta) after being well washed on a prepared filtre, was treated with hydrochloric acid. This dissolved and carried through all the carbonate of baryta as chloride of barium, leaving on the filtre the sulphate of baryta equivalent to the sulphuric acid of the water; from the filtrate the baryta equivalent to carbonic acid, is thrown down as sulphate and weighed, and from its weight the quantity of equivalent carbonic acid is calculated. This method is capable of great accuracy, and possesses the advantage of determining both sulphuric and carbonic acids at one operation.

No potash is associated with the soda in this water. The quantity at my disposal was insufficient for a more thorough analysis, but it is believed that the above results are very close to the truth. If more of the water had been at my command, I would have determined the organic matter quantitatively and have made an examination of its action on lead, which I am persuaded would be very marked. Some chemists have confidently affirmed that the presence of salts of sulphuric acid in a water will effectually prevent its action on lead. This cannot be considered true in an unrestricted sense, as is shown by the results given in this report.

Both the silica and phosphate of alumina in the analysis of No. 11 were separately analyzed after their weight was recorded, to ascertain their entire purity and freedom from other substances. On comparing the analysis of this water with those before recorded in this report, we notice several points of difference. No. 1 is the only water which approaches it in quantity of matter, but nearly two thirds of the impurities in that water are common salt, while the leading ingredients of this water (No. 11) are chlorides of lime and magnesium—rendering it a *very hard* water, totally unfit for the purposes of common life. The proportion of silica is also uncommonly large, as well as of sulphate of lime, both which would form, on evaporation, insoluble crusts on the flues of steam boilers and locomotives, should manufacturers and railroad companies be driven to the necessity of employing so bad a water for generating steam.

It cannot be doubted that the waters examined during this research—all of which it is presumed are the product of a granitic region—are materially different from those of a different geological formation, such, for instance, as those of a limestone country—or from an alluvial plain. All natural waters may in a certain sense be properly called *mineral waters*, as they must each possess a specific and peculiar character dependent on the nature and amount of solid matters which they contain, which ultimately must depend on the geological structure of the country where they are found. It is curious and instructive to see that even those waters which we consider the purest, all contain, in a notable quantity, matters which are essentially indispensable to satisfy the demandsof the vegetable world (and ultimately the animal also); and when we remember the vast amount of evaporation from the expanded leaves of a full grown forest tree during a single summer day—can we any longer be at fault for a cause sufficient to account in the most satisfactory manner, for the various inorganic constituents of plants? But such reflections belong better to some other occasion than the present report—and I must beg leave, dear sir, to submit the foregoing for your consideration, while I remain

With great respect,
Your obedient servant,
B. SILLIMAN, Jr.

New Haven, Ct.,
Yale College Laboratory, Oct. 29, 1845.

City Document.—No. 42.

CITY OF BOSTON.

APPLICATION TO COUNSEL.

In Common Council, December 1, 1845.

Read, and ordered to be printed.

Attest, W. P. Gregg, *Clerk C. C.*

CITY OF BOSTON.

In Common Council, November 28, 1845.

The special Committee of the Common Council, appointed to take into consideration the present state of our Municipal affairs, ask leave, further, in part, to

REPORT:

Your Committee have considered that the occurrence of the melancholy event, which had been for sometime anticipated—namely, the decease of the Hon. Thomas A. Davis, Mayor of our City—might have effected some important change in the position and powers of the two branches of the City Council:—and, as it appeared to be very desirable, for the most obvious reasons, that the surviving members of the City Council should know how far their respective powers and duties had been influenced by the decease of him who had departed from among them, your Committee have deemed it their duty to take further advice of the eminent counsel heretofore consulted by them, touching this change of circumstances.

The opinions of the counsel, upon this point, are herewith submitted, as part of this Report. The Common Council will, unquestionably, listen to that document—and give it the weight to which it is entitled. Your Committee are of opinion that the

Common Council cannot any longer hold official communication with men sitting as a Board, having no legal authority; and declared, by learned legal counsel, to be in a state of disorganization:—or, at least, that no such communication should be held, except in regard to that action which is expressly authorized by the City Charter—namely, the declaration of the decease of the Mayor—the vote of a consequent expediency of the election of a Mayor, for the time being—and the meeting in convention, for the making such election.

For the Committee,

WILLIAM HAYDEN, *Chairman.*

Common Council Chamber,
Wednesday Evening, Nov. 26, 1845.

To the Hon. Richard Fletcher.

Dear Sir,

Under the authority of a special Committee of the Common Council of the City of Boston, upon the present state of the Municipal affairs, I again address you, for the purpose of obtaining your advice and counsel upon the questions which are herewith submitted for your consideration.

You will, of course, have learned that, since the last consultation held with you in behalf of this Committee, the Hon. Thomas A. Davis, the then Mayor of the City, has departed this life. In this new position of events, the question has arisen, whether the Aldermen, or the Common Council, can legally proceed, either jointly or severally, to the transaction of any public business. That question we now, in behalf of the Common Council, submit to your consideration—and, if it should be your opinion that the two Boards, as now existing, are not competent to the transaction of the public business, we desire, further, to know what course the Aldermen and Common Council can now pursue, to effect a legal organization of the City Government, for the due transaction of the public business.

Ever since the existence of the present difficulties in the City Government, the Common Council has evinced the strongest desire to adopt the proper measures to obviate those difficulties. Acting in this spirit, they have adjourned from this evening, to meet again on Friday evening next—and the Committee will feel obliged by receiving your opinion on the questions here submitted, as early as six o'clock on Friday evening.

I am instructed to authorize you to advise with such other counsel as you may think fit to consult on this subject.

Very truly and respectfully,
Your ob't servant,
WILLIAM HAYDEN,
Chairman Committee Common Council.

QUESTIONS SUBMITTED TO COUNSEL.

First. There being, at present, no person holding the office of Mayor of the City of Boston, can the Aldermen, or the Common Council, legally proceed in the transaction of any public business, either jointly or severally?

Second. If those Boards, as now constituted, cannot proceed in the transaction of the public business of the City, what course should be pursued, to effect such an organization of the City Government as will enable it to exercise its appropriate powers, and discharge its duties?

QUESTIONS.

Questions submitted by a Committee of the Common Council, for advice of Counsel.

1st. There being, at present, no person holding the office of Mayor of the City of Boston, can the Aldermen or the Common Council legally proceed in the transaction of any public business, either jointly or severally ?

2d. If those Boards, as now constituted, cannot proceed in the transaction of the public business of the City, what course should be pursued to effect such an organization of the City Government as will enable it to exercise its appropriate powers and discharge its duties ?

OPINION.

The powers and authority of the Board of Aldermen of and the Common Council, emanate from the Act of the Legislature establishing the City of Boston passed in 1822, and sundry subsequent Acts in addition to or in aid of the provisions of the first, which is commonly called the City Charter. By the first section of that Act the inhabitants of Boston are incorporated as a City, " and the administration of all the fiscal, prudential and municipal concerns of said City, with the conduct and government thereof, shall be vested in one principal officer, to be styled the Mayor ; one select Council consisting of eight persons to be denominated the Board of Aldermen ; and one more numerous council to consist of forty eight persons, to be denominated the Common Council ;

which Boards in their joint capacity shall be denominated the City Council." The Charter then prescribes the made of conducting the election of City officers, and declares, by Sect. 10th, "that the Mayor and Aldermen thus chosen and qualified *shall compose one Board* and shall sit and act together *as one body*, at all meetings of which, the Mayor if present shall preside." The 11th Section provides for the organization of the Common Council. The 12th prescribes that the Mayor of the said City thus chosen and qualified, shall be taken and deemed to be *the chief executive officer* of said corporation;" and it is declared to be his "duty to be vigilant and active at all times in causing the laws for the government of said City to be duly executed and put in force; to inspect the conduct of all subordinate officers in the government thereof and as far as in his power to cause all negilence, carelessness and positive violation of duty to be duly prosecuted and punished." By Section 13, the administration of police, together with the executive powers of the said corporation generally, together with all the powers heretofore vested in the Selectmen of Boston, are vested in the Mayor and Aldermen as thereby constituted. By the 15th Section, all the *legislative* powers of the Corporation are vested in the Mayor and Aldermen and Common Council, to be exercised by them by concurrent vote; and in other parts of the Charter and subsequent Acts, provisions will be found applicable to the officer, denominated the Mayor; it is not necessary to multiply references to them; we will only cite the Act passed in 1835, which provides for the election and constitution of the Board of School Committee of Boston, and declares that it shall consist of *the Mayor* of the City, with other persons therein designated.

The Mayor is thus made an *integral* part of the Corporation—as much so as the Aldermen or Common Council. And if these were the only provisions of law relating to him, it is our opinion that his *actual presence* would be an essential requisite to the validity of every Act of the Board over which he presides by the express command of the Charter. The decision of analogous cases by the highest Courts in England, and in some of these States, justifies and sustains this position. But it is manifest that the public business of the City might be obstructed, and injury be suffered by the citizens individually, if by the mere temporary absence of the Mayor from the Board of Aldermen, their powers were suspended;—to prevent this the 10th Section provides that "in his absence the Board may elect a chairman for the time being." The individual so chosen would possess all the authority in relation to the business done at that meeting, that the Mayor would have had if present, but we can find no warrant in the laws for supposing that the powers of such chairman extend beyond the period of the meeting at which he was chosen.

That the Mayor was considered to be an integral part of the Corporation, whose place could not be supplied by a chairman, without further legislation on the subject, is confirmed by the provisions of the Act passed June 5, 1830, the intention of which is to supply the deficiency caused by a failure to elect a Mayor prior to the first Monday in January; in that case, the Aldermen and Common Councilmen *elect*, are empowered to organize their respective Boards without the presence of the Mayor, and the Members of the Board of Aldermen shall proceed to elect a Chairman, and the Common Council a President, in their respective Chambers," and thus organized "shall proceed to business in the same manner as is provided in the tenth section of the City Charter, in case of the absence of the Mayor." The only business which the two Boards are, by the tenth section of the Charter, authorized to do, is to choose and qualify in Convention, the City Clerk, the recording officer of the Corporation. Limited by this section, the Aldermen thus organized would not have power to issue warrants for a new election of Mayor, but the Act of June 1830, goes on to provide that the Board shall forthwith issue their warrants for meetings of the citizens for the choice of Mayor from time to time, until such officer be chosen by a majority of all the voters at such elections. The other clauses of this Act (June 1830) provide for similar measures in case a Mayor who is chosen shall refuse to accept the office;—and for the contingency of the Mayor elect being prevented, by sickness or otherwise, from being present at the organization of the government on the first Monday in January. The whole scope and all the provisions of this Act, are strictly confined to the non-election, refusal to accept, or unavoidable absence of the Mayor elect by sickness or otherwise, on the first Monday in January. They have no reference to, or bearing on the case which might occur, of the death of the Mayor after having been sworn into office. That event is provided for by a clause in the fifth section of the Charter, which declares that "in case of the decease, inability or absence of the Mayor, and the same being declared and a vote passed by the Aldermen and Common Council respectively declaring such cause, and the expediency of electing a Mayor, for the time being to supply the vacancy thus occasioned, it shall be lawful for the Aldermen and Common Council to meet in Convention and elect a Mayor, to hold the said office until such occasion be removed, or until a new election."

All these enactments concur in proving that the Mayor is by law an essential part of the City Government—that his temporary absence may be supplied by the choice of a Chairman of the Board of Aldermen "for the time being"—that his permanent absence or inability, or the vacancy caused by his decease, may be remedied by an election by the Aldermen and Common Council, in Convention—and that, in case of failure by the citizens to elect, or the refusal to accept the office of Mayor, the Aldermen shall issue new warrants for the election until a Mayor be chosen who will accept the office. All the enactments of the Legislature declare by the strongest implication, that the office of Mayor of the City shall be vacant *no longer* than is required by the means provided in the laws, to fill it.

Among the Acts of the Legislature which have been brought to our notice, is one passed January 4, 1845, entitled "an Act concerning elections in the City of Boston for the present year;" but the provisions of this Act, as well as its title, confine it to the elections which took place at the commencement of the year eighteen hundred and forty-five; it was rendered necessary by the fact that less than a majority of the number of Aldermen required by the Charter, was chosen by the citizens, and the minority thus elected were not authorized to be sworn in or to organize the Board, or issue new warrants to fill vacancies, or to perform any official act whatever; The interposition of the Sovereign Power of the State was invoked to remove the disability thus created; and this was done by the Statute last referred to; but it is not prospective in its provisions beyond the present year, and by the election of the late Mayor and the present Board of Aldermen all its functions have been performed.

On mature consideration of the several provisions of the Charter and subsequent statutes, we are clearly of opinion, that neither the Aldermen nor the Common Council can legally proceed to the transaction of any *public business* (saving such as is hereinafter mentioned) jointly or severally, except the taking of such steps and the passing of such votes, as the decease of the late Mayor has rendered necessary for the purpose of filling the vacancy created by that event.

These steps are clearly indicated in and by the fifth section of the Charter, which we have cited above.

We do not intend to express the opinion that meetings of the Aldermen or Common Council for deliberation, would be unlawful, but that no act of legislation or authority, which requires the concurrence of the Board of Aldermen, can be legally perfected, until that Board shall be again duly constituted by the restoration of its head and presiding officer.

The Common Council, possessing its proper organization according to the Charter, may perform any of its functions which are independent of the

Mayor and Aldermen and do not require the action of that Board to give validity to them. It may fill vacancies in the offices of President or Clerk of the Common Council, (if any take place)—may appoint Committees, receive and act on reports, but it cannot lawfully unite with the Board of Aldermen, in passing ordinances, or appropriating the public moneys or in any other act affecting the Corporation or the citizens, while that Board is as at present constituted, except to go into convention for the purpose of choosing a Mayor.

We consider that the Board of Aldermen, by the death of the Mayor, are, for the time being, and until the vacancy is supplied, as completely deprived of their powers as the Mayor would be by the death or resignation of all or the major part of the Aldermen. They are equally essential to the legal action of that Board, and neither can execute the duties of the other. The executive functions of the Mayor and Aldermen, or of the Mayor, can no more be performed by the Aldermen without a Mayor, than they could by the Mayor without Aldermen.

RICHARD FLETCHER,
CHARLES P. CURTIS,
CHARLES G. LORING.

December 1, 1845.

City Document.—No. 43.

CITY OF BOSTON.

J. P. ROGERS'S OPINION.

CITY OF BOSTON.

In the Board of Aldermen, Nov. 12, 1845.

Whereas the City Treasurer refuses to pay the Creditors of the City their just dues, after having their Bills legally and properly vouched—it is therefore hereby

Ordered, That the Chairman of this Board be, and he hereby is authorized to obtain such legal advise in reference to this subject, as the exigency of the case seems to require, and in the absence of our City Solicitor he is authorized to employ such legal adviser as he may think proper. And report if expedient such opinion as he may obtain in respect to the City Treasurer at the next meeting of this Board.

Passed.

Attest, S. F. McCleary, *City Clerk.*

To Benson Leavitt, Esq.,
Chairman of the Board of Aldermen of the City of Boston.

I have considered the question proposed to me by the Board of Aldermen, respecting the authority of its Chairman to draw drafts upon the Treasury for the payment of the City creditors, in the event of the "decease, inability or absence of the Mayor," and I herewith submit to your Honorable Board the following

OPINION.

The question proposed by you, involves a construction of the Charter of this City, and some of its ordinances. In my judgment they do authorise, in the present emergency, the Chairman of the Board of Aldermen to draw his drafts on the City Treasurer in payment of claims "legally and properly vouched."

The Charter contemplates and provides for an organization of a City Government for certain purposes.

It provides for and prescribes the mode and manner of its organization. It recognizes an organization and distributes its powers in various ways.

The first section provides that "The administration of all the fiscal, prudential and municipal concerns of said City, with the conduct and government thereof, shall be vested in one principal officer, to be styled the Mayor, one select council, consisting of eight persons, to be denominated the Board of Aldermen, and one more numerous council, to consist of forty-eight persons, to be denominated the Common Council; which Boards, in their joint capacity shall be denominated the City Council, together with such other boards of officers, as are hereinafter specified.

By the tenth and eleventh sections, the Mayor and Aldermen compose one Board, and the Common Council one, who act independently of each other.

The 11th, 12th, 13th and 14th sections prescribe the powers and duties of the Mayor, of the Mayor and Aldermen, as a Board, and the Common Council; and by the 15th section it is provided that all other powers now, by law, vested in the town of Boston, or in the inhabitants thereof, as a municipal corporation, shall be, and hereby are, vested in the Mayor and Aldermen, and Common Council of the said City to be exercised by concurrent vote, each Board, as hereby constituted, having a negative upon the other.

In this enumeration we have a Mayor, a Mayor and Aldermen, and a Common Council, to each of which are assigned certain specific, enumerated duties, in the discharge of which, each acts independently of the other, although in some instances, they must act in concurrence to render the acts of either valid.

Suppose, we admit, they are each integral parts of the Corporation and that no one of them can exist by the Charter of 1822 without the existence of the others. The reason and the necessity is this: that otherwise the power to organize under the Charter is not conferred and cannot therefore be exercised.

The Common Council, it is conceded have been properly organized according to the Charter, and they, notwithstanding the death of the Mayor, may perform any of their functions which are independent of the Mayor and Aldermen;—why? Because they are independent of that Board. If therefore, the Mayor and Aldermen, as a Board, are independent of the Mayor; then it follows, that the death of the Mayor no more affects the powers of the Mayor and Aldermen, as a Board, than the legal incapacity of that Board affects the legal functions of the Common Council.

The whole question then turns upon this, are the relations of the Mayor to the Board, denominated the Mayor and Aldermen, of such a character that his decease operates as a suspension of the powers of the Board, and deprives it of its ordinary functions as a coordinate branch of the City Government.

It is insisted "that the Board of Aldermen by the death of the Mayor, are, for the time being, and until the vacancy is supplied, as completely deprived of their powers as the Mayor would be, by the death or resignation of all or the major part of the Aldermen. They are equally essential to the legal action of that Board and neither can execute the duties of the other. The executive functions of the Mayor and Aldermen, or of the Mayor, can no more be performed by the Aldermen without a Mayor, than they could be by the Mayor, without Aldermen."

In coming to this result the line of argument proceeds upon this assumption; that the Mayor is an integral part of the Board. That he is a member of the Board, is true; but there is a wide distinction between membership and integrality. That, as Mayor he is an integral part of the Corporation, for certain purposes, may be conceded. That concession, however, reflects no light upon the question.

I stand upon this proposition, that the Mayor, by a reasonable interpretation of the Charter, is a member of the Board, denominated the Mayor and Aldermen, and that his decease in no manner affects the powers of the Board more than the decease of any other member. A contrary construction is not to be adopted, except the necessity of the case compels it, because, if that construction obtains, the consequences inevitably are, so long as a majority of the Aldermen shall, in the exercise of *a power clearly conceded to them*, deem it inexpedient to fill the vacancy, we have no government, and no power to continue the existence of one.

The construction then, of the Charter, which upon the happening of any contingency, survives the largest amount of power, is to be preferred.

Does it admit of such a construction?

Certain duties devolve on the Mayor by the Charter, as Mayor, of which the Charter contemplates a personal and special discharge. Whether those specific duties can be performed by the Chairman of the Board of Aldermen is not material to the present inquiry. I think they cannot. Here is the integrality of the Mayor, and here it ceases.

We then have by the Charter (Section 10) another Board, composed of certain individuals, upon which certain *other* powers are conferred. In respect to those powers they are an *independent* body; and again (Sec. 11) another body, or board, the Common Council, which is independent in *its* sphere; and again, a fourth estate, the City Council.

The three first I call integral parts of the corporation. Neither can exist under the Charter of 1822, without the other, but being in existence they are *independent bodies*, and subsist *independently*. The Mayor, as

Mayor, and the Mayor, as a member of the Board, called the Mayor and Aldermen, are as distinguishable in legal contemplation, as A. an individual, and A. a member of the house of A. B. & Co. He acts in different capacities: in the former he is clothed with the powers of Mayor; in the latter he acts as a member of the Board, and there he has no more voice or power than any other member of the same Board. He sinks his Mayoralty, and puts on the habiliments of an individual member of the Board, and is its presiding officer.

The Charter by this construction creates a corporation, consisting of,

First, a Mayor.

Second, a Board designated as the Mayor and Aldermen, and

Third, a Board consisting of the members elect of the Common Council, and called the Common Council.

Upon each are imposed certain specific, enumerated duties, in the discharge of which, they act irrespective and independent of each other.

Annihilate one of them, and the powers of that Board are suspended; but the separate powers of the others remain. The death of the Mayor suspends the power of that office; but what the two Boards could separately do, when the Mayor was living, they can still do.

If we look into the Charter, we shall, nowhere, certainly not, in terms find it declared that the death of the Mayor shall suspend any of the powers of either Board. Where is the section, from which, by implication, the power is suspended? I confess I do not find it. On the contrary I do find in the 5th Section, language, which to my mind implies the reverse. It is as follows.

"In case of the decease, inability or absence of the Mayor, and the same being declared, and a vote passed by the Aldermen and Common Council, respectively, declaring such cause, and the expediency of electing a Mayor, for the time being, to supply the vacancy thus occasioned, it shall be lawful for the Aldermen and Common Council to meet in convention, and elect a Mayor to hold the said office, until such occasion shall be removed, or until a new election."

Here is the provision, it is said, by which alone survives to the Mayor and Aldermen (when I use the terms Mayor and Aldermen, I mean the Board thus designated in the Charter) the power to supply the vacancy created by the death of the Mayor.

Contemplating the vast powers and vital interests committed by the Charter to this Board, I cannot conceive that the Legislature, had they intended that upon the death of the Mayor, the government could only be continued by supplying the vacancy thus occasioned, that they would have left that matter to the discretion of the concurrent vote of the two Boards. It would require no very loose construction of the Charter, to find authority for the continuance of the power here claimed in the Board of Aldermen, as now constituted, in the very language and letter of the Charter.

The 10th Section provides, "That the Mayor and Aldermen, thus chosen and qualified, shall compose one Board, and shall sit and act together as one body; at all meetings of which, the Mayor, if present, shall preside; but in his *absence*, the Board may elect a Chairman for the time being."

This Section does not discriminate as to the causes of absence, or limit the action of the Board to any cause. The necessity of his presence is involved in all causes alike, and if they can proceed in his absence it is difficult to see why they may not proceed when he is dead, unless his death works some practical disability in the Board. The only object of this Section was to make provision for a presiding officer, in the absence of the Mayor. It was not the Mayor they wanted—they did not elect a Chairman to act as Mayor. The death of the Mayor creates an absence which answers the requirements of the Charter, and confers authority to choose a Chairman in his absence.

The Chairman has been chosen ; the accounts have passed the ordeal provided in the third Section of the City Ordinance of 1825 ; and the Chairman has drawn his warrants therefor on the City Treasurer in pursuance of an Ordinance of the City, passed February 7th, 1845.

Is the Chairman authorized, by the Ordinances, to draw these warrants?

Let the Ordinances themselves answer.

The Ordinance of 1825 provides, (Sect. 3) "that no moneys shall be paid out of the City Treasury (except in the case hereinafter provided) unless the expenditure, or the terms of the contract, shall be vouched by the Chairman of the Committee of the Board, under whose authority it has been authorized or made ; nor unless the same shall be examined by the Auditor, be approved by the Committee of Accounts, and be drawn for *by the Mayor*.

The Ordinance of 1845 provides, that "during any vacancy in the office of Mayor, all the powers and duties heretofore exercised and performed by the Mayor, *by virtue of any Ordinance*, orders or Resolves of the City Council shall be exercised and performed by the Chairman of the Board of Aldermen for the time being."

It is said that the individual so chosen "would possess all the authority in relation to the business done, at that meeting, that the Mayor would have, if present, but we can find no warrant in the laws for supposing, that the power of such Chairman extends beyond the period of the meeting, at which he was chosen.

Is it maintained, that under these provisions of the Charter and Ordinances, a Chairman being chosen does not continue in office, until the return of the Mayor to the Board?

The President of the Senate of this State is absent from the Senate Board, from indisposition, or some other cause, and a President pro tem. is elected. What is the duration of his term of office?

The distinction drawn by those holding other views, is this; that the Chairman of the Board of Aldermen, when that Board is in session, has the power to draw his warrant on the Treasurer—when not in session, he has not that power.

The question, as above stated, involves a construction of the Charter of the City and two of its Ordinances.

On the one hand it is maintained that the Board, the Mayor and Aldermen, ceases to exist as a Board in the death of the Mayor, on the ground that the Mayor is an integral part of the Board and necessary to its existence; and on the other hand it is maintained that the powers of the Board are not suspended by the death of the Mayor.

This or that conclusion results; That the Mayor and Aldermen, as a constituent branch of the Government, to whom as a Board is committed the most important functions of the Government, are deprived by the death of the Mayor of the power to perform their functions as a Board, and thereby, the whole power of the Government is suspended; or, that Board, may, in the absence of the Mayor, in pursuance of the 10th Section of the Charter, act as a Board, and continue the operations of the Government, and thereby prevent a dissolution of the City Government, and perpetuate the same, which must otherwise be dissolved; upon the contingency that the Aldermen and Common Council shall by a concurrent vote resolve that it is expedient, whether in their judgment, it is expedient or not, that the vacancy occasioned by the death of the Mayor be supplied, and that a Mayor be elected to supply the vacancy thus occasioned.

By the one construction, the powers of the City Government continue, so far as the same are conferred, *independently* of the office of Mayor,—on the other hand, if this construction does not obtain, then, upon the death of the Mayor, the whole functions of the City Government are suspended and the continuance of the Government is made to depend upon the contingency, whether the Aldermen and Common Council, as distinct Boards, shall, by a concurrent vote, declare that it is expedient to elect a Mayor, and in Convention, shall elect one. In the one case we have a practical subsisting Government, notwithstanding the death of the Mayor; in the other, we have no Government, nor the power of perpetuating one, except upon the contingencies aforesaid. I cannot hesitate which of the two constructions is to be adopted, under such circumstances, where the language and import of the Charter leave the question of construction contingent.

J. P. ROGERS.

AN

ADDRESS

AT THE

FUNERAL

OF THE

HON. THOMAS A. DAVIS,

MAYOR OF BOSTON,

DELIVERED IN CENTRAL CHURCH,

ON TUESDAY, NOVEMBER 25, 1845,

BY JOHN PIERCE, D. D.

Pastor of the First Congregational Church, in Brookline.

BOSTON:
1845.
J. H. EASTBURN, CITY PRINTER.

CITY OF BOSTON.

In Common Council, November 25, 1845.

Ordered, That the President, and Messrs. Hillard and Whiting, be requested to furnish for publication, copies of the Addresses delivered by them, at the last meeting of this Board, upon the death of the Mayor.

Attest,

W. P. GREGG, *Clerk of Common Council.*

CITY OF BOSTON.

In Common Council, November 28, 1845.

Ordered, That the President of the Council be requested to apply to the Rev. JOHN PIERCE, D. D., of Brookline, for a copy of the Address delivered by him, on Tuesday last, on occasion of the Funeral of the Mayor, the late THOMAS A. DAVIS, and if obtained, that the same be published in connection with the Address of the President of this Council, and the remarks by Messrs. Hillard and Whiting, ordered to be printed at a former meeting of this Board.

W. P. GREGG, *Clerk of Common Council.*

Boston, November 29, 1845.

Rev. John Pierce, D. D., *Brookline.*

My Dear Sir;—I have been requested by the Common Council of the City of Boston, to apply to you for a copy of your excellent address, on the occasion of the funeral of the Honorable Thomas A. Davis, late Mayor of this City. In communicating to you the request of the Common Council, I take occasion to say, that a compliance therewith, on your part, will be highly gratifying, not only to the City Government, but to the numerous friends of the deceased, and especially to

My dear sir, very respectfully and truly,

Your obedient servant,

PELEG W. CHANDLER,

President of the Common Council.

Brookline, December 3, 1845.

Peleg W. Chandler, Esq.,

President of the Common Council, Boston.

My Dear Sir;—At the request of the Common Council, conveyed by your flattering communication of their vote, I submit to their disposal the hastily written Address, at the funeral of the Honorable Thomas A. Davis, late Mayor of your city; not for its intrinsic merits, but simply as an undisguised effusion of the heart, at the obsequies of a long tried friend.

I am, dear sir,

Your's sincerely and affectionately,

JOHN PIERCE.

ADDRESS.

"I heard a voice from Heaven, saying unto me, Write, blessed are the dead, which die in the Lord, from henceforth. Yea, saith the Spirit, that they may rest from their labors; and their works do follow them."

These words were suggested to my mind with irresistible force, the very moment the tidings of our dear friend's dissolution reached my ears, over whose mortal remains we are assembled to discharge the last solemn offices of respect and affection, before consigning them to "the house appointed for all living."

And I was preparing, according to my wont, to record, in my Memoirs, for future retrospection, what, in the character of my friend, I best knew, and most highly valued. When lo! in the midst of my meditations, I was suddenly surprised by a direct application from the family to make more public what, I had intended, for the present, for my own private use.

The reasons assigned for this application were such, that, however reluctant at appearing thus in public, I felt not at liberty to decline the service.

Both of my friend's parents have belonged to my church. His mother has been a member, in full communion, for sixty-three years. Most of his ancestors, since the gathering of our church, are on the church's records. Two of them have been Deacons. One, at its foundation, one hundred and twenty-eight years ago.*

Besides, his pastor,† to whom the duty assigned me, would more appropriately have fallen, has recently sailed for Europe. His friends have therefore judged, that it belonged next to one, to whom "his manner of life from his youth" has been most intimately known.

Let me barely premise to the brief sketch, which I have to offer, that I shall not be expected, on the present occasion, either precisely to delineate the religious creed, or to define the political standing of our departed friend. These I shall leave for traits of character, which I more highly estimate, and with which I am better acquainted.

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* Deacon Ebenezer Davis was his great grandfather.

Deacon Thomas Gardner, a Deacon of the church in Brookline, when it was gathered, in 1717, was his great, great, great grandfather.

This Deacon Thomas Gardner, was grandfather of Isaac Gardner, Esq., a graduate of Harvard University, in 1747, who was slain in Lexington battle, on 19th of April, 1775.

† The Rev. William M. Rogers.

Thomas Aspinwall* Davis, the last Mayor of this City, was born in Brookline, which formed a part of Boston, for seventy-five years from its incorporation, on 11 December, 1798; and, on the 16th of the same month, I solemnly dedicated him to his God and Savior at the baptismal font.

I will here repeat, what I have often said of him, even in his youth, that, if I have ever known a child, who, like Jeremiah, appeared to be sanctified from his birth, it was he. For, from early life, he was remarkably free from the frivolities of childhood, and was noted for correct deportment. When he had attained to suitable age, he was viewed, as a moderator among his youthful companions, adjusting their little disputes, defending the weak against the injuries of the strong and the overbearing, resolutely asserting the rights of the down-trodden, and protecting the innocent.

He had the felicity of a descent, in the maternal line, from ancestors of preëminent piety; so that, in regard of himself, as well as of other members of the family, who have died in the Lord, the promise of Jehovah to the father of the faithful has been abundantly verified, "I will be a God to thee, and to thy seed after thee." As peculiarly applicable to such cases, the language of Paul to Timothy has often occurred, "I thank God, when I call to remembrance the unfeigned faith, that is in thee, which dwelt first in thy grandmother Lois, and thy mother Eunice; and I am persuaded, that in thee also." Those holy women were doubtless the instruments, under God, of exerting a salutary influence not only upon their own offspring; but also upon their descendants of the third and the fourth generation.

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* So named out of respect to his maternal grandfather and great grandfather.

In his attendance on the catechetical instructions of his pastor, which preceded the formation of Sabbath Schools, our young friend was exemplary and docile. As proof how he estimated them, it may be mentioned, that in attaching himself to a church, in this city, in the habit of requiring a relation of religious experiences, as a test of membership, he was careful to maintain, that he received his earliest and deepest religious impressions, at the catechisings of his first pastor.

These and similar testimonies from other sources are treasured, as some of the most precious memorials of a ministry unusually prolonged.

In early life, our young friend came to serve an apprenticeship in this city, and, in 1817, when but nineteen years of age, he commenced business on his own account; yet his visits to his native town were not few, nor far between. After his union to the Christian Church, he was always ready, as occasion offered, to hold communion with his parents, connexions, and friends, under the pastor of his youth.

In the autumn of 1823, he made public profession of the christian faith, in Park-street Church, in this city. Many are witnesses, how holily, and justly, and unblamably he demeaned himself in this sacred relation. In November, 1825, he became united in the bonds of holy matrimony, to Miss Sarah Jackson, daughter of the Hon. William Jackson, of Newton, who lives, without issue, to mourn the extinction of her brightest earthly hopes.

When those, with whom he coöperated, thought it desirable to procure the ministerial services of the Rev. Dr. Beecher in this city, he united with others, and was on the Building Committee for erecting the Stone Church, in Hanover street, which was afterwards destroyed by fire. After the demolition of Hanover Street Church, he was among the most active and influential in erecting the Bowdoin Street Church.

Into the project of converting Federal Street Theatre into a place for christian worship, which, sad to relate, it is said, is about to revert to its original use, he entered with all his heart, and, having been instrumental in gathering a society, which, it was thought, would warrant the measure, he was again on the Building Committee for erecting this Central Church, in Winter street. With such success were their measures attended, that, soon after the dedication of this elegant and costly edifice, all the expenses of erecting it were promptly paid.

From 1833 to 1839, Mr. Davis held several minor offices in the City Government, when he was elected to the House of Representatives; which office he held, two years. In 1842, he was again elected

Representative; but declined a nomination to the office, for the next year.

During these varied occupations, and, amid the toils and cares of business, as a jeweller,* he redeemed time, and found means, for the purchase of books and other instruments of knowledge, by which, he essentially remedied the defects of an early indifferent education.

He was actively engaged in the instruction and supervision of Sabbath Schools. For a considerable time, he was Superintendent of the Sabbath School, in Green Street Church, under the pastoral care of the Rev. Dr. Jenks, which school he last addressed, to great acceptance, while Mayor of the City.

He was, for some time, an active, efficient, and highly valued President of the Boston Temperance Society.

He united with others in the formation of the Boston Lyceum, of which he was President, at the time of his death; and had been, for several previous years, the Treasurer. He also assisted in devising other means of public instruction, to abate, as far as possible, the passion for theatrical, and kindred entertainments, and to substitute places of public resort, which might furnish more solid instruction, and lessen the temptations to idleness and dissipation.

In 1839, Mr. Davis sailed for Europe, where he spent four months, visiting England, Scotland, Switzerland, and France. On his return, he published, in the Mercantile Journal, interesting sketches of the countries, through which he had passed.

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* For the last nine years of his life, he was senior partner in the firm of Davis, Palmer, and Company.

Amid his untiring efforts to do good, and to prevent evil, he was constantly furnishing evidence, that the love of distinction was not his predominant motive. He indeed shrunk from the notice, which his active zeal in every good work attracted toward him. Though a constant attendant on private religious meetings, he was, for a length of time, through diffidence, reluctant at taking an active part in their services.

He was repeatedly chosen to the office of Deacon, once in Bowdoin Street Church; and twice, in Central Church. At each time, he declined the distinction, though, on one occasion, urged most strenuously by his most devoted personal friend, as well as pastor, the Rev. William M. Rogers, to whom he could refuse almost nothing; and this, not so much because he undervalued, as, because, if possible, he over-estimated the office. His ideal of its duties was such, that he shrunk from incurring its solemn responsibilities.

Between three and four years ago, amidst the heaviest pressure of his constantly multiplying employments, he took charge of a Bible class, of thirty or forty gentlemen, for whose benefit, he wrote out, within the space of one year, sixty-five lectures, averaging one hour, each, in the delivery; and these not in the very words of scripture, but in language of his own, conveying the sentiments and facts of scripture, as nearly as possible, in a chronological order; and of the gospels he formed harmonies, after faithfully consulting the most approved models.

It would not be strange, if they, whose constant occupation it is to write, should be puzzled to account for such an amount of manuscript, within so short a period, in the midst of so many other indispensable engagements.

With such a diligent employment of his time and intellectual faculties, it is confidently believed, that he has fully answered public expectation, in the written documents, which it became his duty, at any time, to produce.

About fifteen years ago, Mr. Davis was visited with a combined attack of pleurisy and lung fever, from which all hopes of recovery were relinquished, both by himself, and family, and physicians. He however, did recover, and, on the return of health, he wrote his views on death, which he published in one of the periodical journals. The following are quoted, as the results of his personal experience.

"It is a fact," writes he, "that very many christians, who have a comfortable, and even a bright hope, that it will be well with them, after death, shrink at the thought of dying. This arises chiefly from two causes. First, the belief, that the body must, necessarily, undergo severe and excruciating pain, before the spirit takes its departure; and, secondly, that the hope of future happiness may fail, and the prospect become clouded, in a near view of eternity.

"With regard to the first cause; namely, bodily suffering, it is generally overrated. A very large proportion of those who die, if we may believe the testimony of physicians, pass out of life, apparently, with as much ease, and with as little pain as they would fall asleep.

"The fear of discovering, in a near approach to eternity, a false hope, is, no doubt, another cause, which renders death to many real christians, an object of dread.

"Such apprehensions, with few exceptions, it is believed, are groundless. No sooner is the dying christian informed, that his case his hopeless, and that he is rapidly approaching the grave; no sooner does he fully realize the fact, than he cuts loose, with many a struggle, and confusion of mind perhaps at first, and swings clear of the world.

"Such at least was the case of one; and such, it is believed, will be the case of every christian, when he gets a clear and distinct prospect of his *home*."

This is well nigh the testimony of one, who had returned from the invisible world.

During the greater part of the last year of his life, he was Mayor of the City of Boston. All who knew him, I believe, will allow, that he carried to the office the most inflexible integrity and fidelity; and discharged its duties with the utmost scrupulosity, till growing infirmities obliged him wholly to retire from public life.

One of his last worldly projects was planning and building, with the aid of others, twelve elegant houses,* on a plat of ground, which was formerly a cherry orchard of his father, and which are among the greatest ornaments in his native village.

When one inquired of him, a short time since, if he were not happy in reflecting on the activity and usefulness of his past life? "O no," was his reply, "that is not the ground of my hope. My whole dependence is on the mercy of God in Christ Jesus."

For the last fortnight of his life, his pulmonary symptoms made rapid progress. He lay, a large portion of the time, with his eyes closed. On one occasion, he suddenly opened them, and said to his attendants, "Think not, that I am asleep, when I am in this posture. My mind dwells much on Heaven, and on the wonderful works of God."

He had an exquisite taste for the beauties of nature. The last time I saw him, a few days before his death, a beautiful bouquet, which a friend had kindly sent him, lay full in his view, and he was contemplating the various flowers, which composed it, with great apparent delight.

About nine days before his dissolution, his brother, the Rev. Increase Sumner Davis, of Wentworth, N. H., made him his last visit. Thinking, that, in the great weakness of his brother, a long call would distress, if not injure him, he proposed to remain with him, but a short time. They immediately began to converse upon the wonders and delights of the invisible world. The sick brother became so interested in the topics of discussion, that he would not consent to his brother's leaving him, till they had conversed together, full two hours. He derived great comfort from the belief, that his consciousness would not be, for one moment, suspended even by death. He interpreted the passage in Revelation, with which I introduced my address, that they, " who die in the Lord," would be " blessed *from henceforth*," immediately, uninterruptedly, and without end; and he dwelt with great delight on the new and ever increasing discoveries, which he hoped to be continually making of the works and ways of God, and of the wonders of redeeming love.

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*Into one of these houses he removed, with his family, in the spring of the last year, to pass the remainder of his life.

Still, there was nothing extatic in his last moments, no formal adieus; no stereotyped expressions of rapture, so common from the lips of the dying. With the sentiment, that " death has its fopperies," as Dr. Young expresses it, he seemed determined not to add to their number.

In repeated instances, when his wife came to administer his daily cordial from the fountain of life, he would say, " Do read me some of the very words of Christ. Ever since I composed a harmony of his gospels, I have felt a greater love for the Savior, and respect for his very language, than ever before."

The last Monday of his life, he said to his partner, with great earnestness, "I should be glad, if it be the will of God, to depart, this very week." His prayer was graciously answered; for, the very next Saturday, at about noon, he fell asleep in Jesus, so gently, that it was difficult to decide, which was his last breath.

The last sentence, which he is understood to have uttered, was in answer to the inquiry how he felt? His reply was in these simple and characteristic terms, "I am perfectly tranquil in body and in mind."

We are therefore to look for the evidences of his good estate to his habitual life and conversation, instead of the questionable ecstacies of a dying hour; agreeably to the sentiment of the celebrated Rev. John Newton, of London, when told with what raptures a certain person had died, quickly answered, "Tell me not how he *died;* but tell me how he *lived.*"

My necessary limits have restricted me to these few imperfect sketches of the life and death of this excellent man.

We cannot express our sympathy with the afflicted mourners, on this occasion, in more fitting terms, than by uttering the sincere wish, that they may be followers of him in those respects, in which he was manifestly a follower of the meek and the lowly Jesus.

We would heartily commend all the associates of our friend, in the Government of this City, to the love and direction of that merciful Savior, whose life was his model, whose precious truths were his guide and his hope.

May we all learn and practise the lessons, which this Providence so forcibly teaches!

And now, thou spirit of our departed brother, farewell, till the bright morning of the resurrection. By an ear of faith, we hear thee bidding adieu to beloved friends, to whom thou wilt be reunited, at the resurrection of the just; to this beauteous Temple, which thou didst contribute so faithfully so rear and to adorn; to fellow-worshippers, so lately engaged with thee in celebrating the praises of redeeming love; to thy fellow-laborers in devices for the best good of this city; and to these mortal remains, in their last visit to this house of prayer, on their passage to the tomb. "We will now commit this lifeless body to the ground, earth to earth, ashes to ashes, dust to dust, in sure and certain hope of the resurrection to eternal life, through our Lord Jesus Christ, who shall change our vile body, that it may be like unto his glorious body, according to the mighty working, whereby he is able to subdue all things to himself."

PROCEEDINGS

OF THE

COMMON COUNCIL.

At a special meeting of the Common Council of the City of Boston, held at the City Hall, on Monday, November 24, 1845, the President of the Council announced the death of the Honorable Thomas A. Davis, Mayor of the City, as follows:

Gentlemen of the Common Council,

It becomes my melancholy duty to announce to you the death of the Honorable Thomas A. Davis, which took place at his residence in Brookline, on Saturday last, at half-past twelve o'clock in the afternoon. The health of Mr. Davis, which had been feeble for some years, sunk under the arduous, responsible and accumulated duties of the Mayoralty; and for several weeks his recovery has been regarded as impossible. He was fully aware of his situation; he knew that he must die, and he calmly prepared for an event, which is the common lot of all, but from which the natural feelings of man instinctively shrink.

I had not the pleasure of an acquaintance with Mr. Davis before he was chosen Mayor of the city, and it was my fortune to be one of those who opposed his election. But immediately upon the announcement of the result of that contest, I sought his acquaintance, and in a long and frank conversation upon the critical and unusual position of affairs in the City Government, he agreed with me that it was in the highest degree desirable, that peace and harmony should prevail; and he voluntarily made the strongest assurances that no effort should be wanting on his part, to insure an object which he considered vital to a proper administration of the city affairs. Since that time, I have known him well, and am a witness of the energy with which he entered upon the duties of his office, of the earnest desire which he always exhibited to take that course which duty pointed out, and of the firmness with which, on more than one occasion, he resisted counsels which he conscientiously believed to be wrong. You, gentlemen, have been witnesses with me, of the manner in which Mr. Davis performed the duties of his office; and I know that I only express the sentiments of every member of this board, when I state the earnest sorrow which we all feel, that he was not allowed to complete the term for which he was elected.

In his private character, Mr. Davis was above reproach. The architect of his own fortune, his name has for many years stood high in this city as a man of integrity and honor; and in a long course of business transactions, no stain has been left upon his character; there is nothing for his friends to regret. As a man of industry and perseverance, who devoted his whole energies to the conscientious performance of duty, he has left a worthy example for the imitation of all; while in those higher qualities of mind and heart, which are best appreciated in the charmed circle of domestic life, he is sincerely mourned by those whose privilege it was to know him with the intimacy of personal friendship.

His death was as peaceful as his life had been virtuous. Away from the noisy din of the busy world,—in the quiet precincts of his own home,—surrounded by the beautiful scenery which his own taste had selected, and amidst the decaying foliage of the trees which his own hands had planted,—sustained and soothed by an unfaltering trust—he sunk to rest—

> Like one who wraps the drapery of his couch
> About him, and lies down to pleasant dreams.

George S. Hillard, Esq., of Ward six, then rose and addressed the Council, as follows:

Mr. President. I presume there is no member of the Council present, who will not share in the emotions proper to this occasion. We are brought together at the solemn call of death. The Chief Magistrate of our City is no more. A just, a good, a benevolent man, who has discharged important trusts and led a spotless life, has passed away from earth, to converse with that which is unseen and eternal. My acquaintance with the late Mr. Davis has been of many years standing, and goes back to the time when we were associated together as officers of an institution formed by the young men of Boston, for intellectual culture and the diffusion of useful knowledge. I learned there to respect those excellent traits of mind and character, which have since given Mr. Davis so large a share of the confidence of the community. He was then remarkable for his quiet good sense, his conscientiousness, his sweetness of temper, the gentleness of his deportment, and his excellent capacity for business. And these were the presiding qualities in his life, to the last moment.

Men, like Mr. Davis, form a valuable part of our social wealth. They are the ligatures which bind society together, and keep it in its just proportions. It is not from wealth, or genius, or learning, that the elements of perpetuity in a State are drawn. These are the lot of but few, and from them a power is sometimes derived which shatters and disturbs, which destroys the proper equilibrium which should prevail in a commonwealth. But in a republic like ours, the true conservative element is derived from the virtues of its citizens, from qualities like those of Mr. Davis; from religious faith, from integrity, from truth, conscientiousness and the domestic affections. When we see the ranks of business filled by men like Mr. Davis, we have an assurance that we shall be able to transmit to those who come after us, the full measure of blessings which we ourselves enjoy. He carried about with him, an atmosphere of reliance, if I may be allowed the expression. He gave to all who met him an assurance that he was a man of truth and sincerity, who would never betray a trust, and who would ever be ready to protect and defend the best interests of society.

To the natural man, there were peculiarly painful elements in the death of Mr. Davis. He was in the prime of life, when in the usual course of nature he had many years of usefulness and happiness before him. His industry had secured him a competent fortune. He was rich in the confidence and esteem of the community, and his domestic relations were the sources of the purest and most lasting satisfactions. But he was a sincere christian, and he met the great change in that spirit which feels that "the Lord's appointment is the servant's hour." He contemplated the approach of death with that serene trust which his past life had given him a right to feel. And such a death gives a completeness to his life, and to his example that double force, which comes from the good man's life and the good man's end.

Mr. Hillard then offered the following resolutions, which were unanimously adopted.

Resolved, That the members of the Common Council have heard with sincere regret, of the death of the Honorable Thomas A. Davis, Mayor of the City of Boston.

Resolved, That we honor the memory of Mr. Davis, for the high principles which governed his life, and the pure motives which influenced his course. We respect his virtues as a private man and a citizen, his industry in his calling, his readiness to aid and relieve others, his kindness of heart, his conscientious devotion to duty, his admirable domestic character, and his sincere religious faith. We honor, too, his integrity and fidelity as a magistrate, and a public man, and the self-sacrificing spirit with which he gave himself to the duties of his office, in spite of the presence of physical infirmity.

Resolved, That the clerk be directed to enter these resolutions upon the records of the Council, and to transmit a copy of them to the family of the deceased.

Mr. James Whiting, of Ward three, in rising to second these resolutions, remarked as follows:

Mr. President. I rise to second the resolves offered by my friend from Ward six, with feelings of sincerity. Having been brought in contact with Mr. Davis on many committees, during the time which he was able to be present, I cannot do justice to my own feelings without giving my testimony to the courtesy with which he ever presided—and, likewise, to the conscientious discharge of all his duties. Further, Mr. President, when an individual is taken from the midst of us, of whom it can be said with truth—he lived the life and died the death of the Christian—would it not be well for us who are left, to reflect upon this important matter, so deeply interesting and of such vital importance to each one of us. I would therefore, Mr. President, wish to impress it upon the minds of each one present, that we as individuals may so live that when we shall be called on to give an account of our stewardship, we, like our departed friend and brother, may be as sure of a happy immortality.

A Committee, consisting of Messrs. Hillard, Seaver, Whiting, Hayward, Leavens, Sloan, and Dutton, with such as the Aldermen might join, was appointed to take such measures, in regard to the funeral services of the Honorable Thomas A. Davis, as they might deem proper, and as may be agreeable to the family of the deceased.

The Council then adjourned to the afternoon of the same day, when they met at City Hall, and proceeded with the Board of Aldermen and other City officers to the Central Church, where the funeral services were performed. They were opened by a prayer from the Rev. Mr. Richards—the pastor of the church in the absence of

Mr. Rogers—who afterwards read a portion of the Scriptures, when a hymn was sung by the choir of the church. Rev. Dr. Pierce of Brookline then delivered an address from Revelations, 14th chapter, 13th verse. After the address, a hymn from the Selection was sung. The Rev. Mr. Adams made the funeral prayer; another hymn was sung, and the exercises closed with a benediction from the Rev. Dr. Jenks. The house was crowded in all its parts. The body of Mr. Davis was conveyed to the family tomb in Brookline, and was followed by a large procession of carriages.

Flags were hung at half-mast upon the Common, and at other public places during the day.

City Document.—No. 44.

CITY OF BOSTON.

BOSTONIA
CONDITA A.D.
1630.

REDUCTION OF CITY DEBT.

City Council, December 31, 1845.

The Standing Committee on the Reduction of the City Debt respectfully ask leave to report to the City Council a statement of their proceedings, to the close of the present municipal year.

On the first day of May, 1845, the commencement of the present financial year, there was placed to the credit of this Committee, the balance of money in the City Treasury, at the close of the business of the last financial year—say 130,872 56

Since that time, there has been received into the City Treasury the following sums of money, which have been carried, according to the City Ordinances, to the credit of this Committee—namely—

Amount received on the principal of various Notes and Bonds due the City,	44,321 55
Amount received for sales of Public Lands sold by the City,	17,171 80
To which should be added, the amount appropriated by the City Council, in the annual Order of Appropriations, for the Reduction of the City Debt,	50,000 00
And the whole amount carried to the credit of this Committee, and applicable to the Reduction of the City Debt, from the first of May last to the present date, is	242,365 91

From the above funds which have been placed to the credit of the Committee, there has been paid from the City Treasury the whole amount of the City Debt which has fallen due since the first of May last, except two certificates, amounting to $3,000, the holders of which have not called for the amounts due them.

Under authority vested in them, by the City Ordinances, the Committee have, also, purchased all the City Stock which they have heard of, as being being offered for sale in the market—believing that, as they had funds at their credit, drawing but a low rate of interest in bank, they could not appropriate those funds better than in buying up the debt of the City, at such rates as it might be worth in the market.

The following are the items which stand charged to this Commitiee—namely—

Amount paid on account of that part of the City Debt falling due within the financial year 1845–46,		63,916 62
Amount of debt purchased by the Committee, as follows—namely—		
Debt due in 1847–48,	7,500 00	
Debt due in 1854–55,	39,000 00	
Making the whole amount of debt purchased,		46,500 00
This debt was purchased at rates of premium varying from $1\frac{1}{3}$ to 6 per cent., according to the length of time which the Stock had to run, and the state of the moeny market at the time of purchase.—The whole amount of premium paid, and charged to this Committee, is		2,154 37
Besides these amounts, there was charged to the funds of this Committee, under an Order of the City Council, the sum due to the Commonwealth of Massachusetts, received at the City Treasury, previously to the present financial year, from Alien Passengers,		6,900 24

And, also, the amount paid into the City Treasury, previously to the present financial year, by the Hon. Abbott Lawrence, for the benefit of certain scholars in the English High School, which was directed to be paid out, and invested in City Stock—say	2,000 00
Making the whole amount placed to the debit of this Committee, from the first of May last, to this date,	121,471 23
The amount carried to the credit of this Committee, as above stated, is	242,365 91
The amount, charged to the Committee, is	121,471 23
Leaving a balance, still applicable to the Reduction of the City Debt, and which will stand at the credit of this Committee, on the books of the City Treasury, on the first day of January, 1846, amounting to	120,894 68
The whole amount of the City Debt, on the first day of May, 1845, as stated in the last Report of this Committee, was	1,163,266 62
Since that date, new Stock has been issued, under an Order of the City Council, passed April 15th, 1844, authorizing a Loan for the widening of Fleet Street—amounting to	5,166 66
Amount carried forward,	1,168,433 28

Amount brought forward,		1,168,433 28
Since the 1st of May last, there has been paid, as herein stated, the following amounts—namely:		
Of the debt due this financial year,	63,916 62	
Debt purchased, due in future years,	46,500 00	
Making the actual reduction of the City Debt, since the first day of May last,		110,416 62
And leaving the exact amount of the Public Debt of the City of Boston, on the first day of January, 1846,		$1,058,016 66

All which is respectfully submitted to the City Council.

For the Committee on the Reduction of the City Debt.

P. W. CHANDLER,
President of the Common Council.

WILLIAM HAYDEN,
Chairman Com. Finance, on the part of the Common Council.

In Common Council, Dec'r 31, 1845.

Accepted and ordered to be printed. Sent up for concurrence.

P. W. CHANDLER, *President.*

In the Board of Aldermen, January 2, 1846.

Read and concurred.

JOSIAH QUINCY, Jr., *Mayor.*